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FAVOURABLE INDUSTRIALIZATION

TEACHER'S MANUAL

STAN GARROD • PETER MASSIAH

McGRAW-HILL RYERSON

CANADIAN INDUSTRIALIZATION

TEACHER'S MANUAL

Prepared by

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INTRODUCTION

OVERVIEW

Canadian Industrialization examines the ways in which the people of Canada use technology to meet economic needs and desires. Emphasizing the role of industry and its impact on Canadians today, the text also presents students with an overview of the changing ways in which the people of this nation -- native peoples, European settlers, and modern Canadians -- have developed and used technologies. At all times, the primary focus is on people and the impact of technological change and industrialization on them, their societies and cultures, and the environment in which they live.

Students using *Canadian Industrialization* study the value conflicts, choices, and continuing concerns that arise from the industrialization of Canada. These issues are presented at a variety of levels -- individuals, families, communities, and the nation as a whole. Inquiry activities in each chapter allow students to examine the issues arising from industrialization in Canada and to relate them to their own communities, and personal experiences, thereby assessing the impact of industrialization on Canadian society. These activities also give students the opportunity to examine and offer solutions to any problems they see as arising from industrialization and its impact on people and environments.

STRUCTURE OF THE STUDENT TEXT

There are two major units in the text. UNIT 1 provides the broad background to the study, while UNIT 2 examines case studies that focus on the specific issues, values, and concerns that arise from modern industrialization.

UNIT 1 begins with a chapter entitled "Starting an Industry." It sets out the seven basic economic elements of industrialization. To make this more relevant to students, the text introduces two young industrialists, Lynn and Peter, as they set about creating a new local industry. (See page 15 for a note on the purpose of this chapter.) Students are provided with operational definitions of the seven key factors of industrialization. In the course of the chapter, students should also begin to understand the ways in which these seven factors closely interact in all modern Canadian industries.

The second chapter of UNIT 1, "The Growth of Industry," presents students with a brief history of industrial activity in Canada. This chapter traces the economic development of Canada from a number of isolated pre-industrial hunting and farming communities, through early industries, such as sawmilling and shipbuilding, to the emergence of a highly specialized, interdependent, industrial nation.

In UNIT 2, students will work through a series of seven case studies that permit them to examine more thoroughly the use of technology in a

number of contemporary Canadian industries. In each of the case studies, students are provided with an in-depth examination of the importance of the industry, its impact on Canadian society, and its effect on our physical environment. In each case study, students can examine problems and value issues.

The case study approach was chosen so that students can undertake a more thorough investigation of the nature and impact of industrial development in Canada. The student text, therefore, moves from general information about industrialization in the first unit to detailed examination of selected industries in the second. This approach allows the teaching of basic factual and conceptual information as well as the application of this knowledge through inquiry and problem-solving activities, using data presented in the case studies. The use of the case study approach permits a greater emphasis on the development of inquiry skills than is usually permitted by the survey approach used in most texts.

There is another merit in the case study approach. It allows student readers to acquire a more substantial body of data from which to conduct inquiry activities and thus gives greater scope to differing points of view on the usefulness, importance, or impact of a given industry in Canada. Because it can deal with a variety of viewpoints, the case study can be extremely useful in the examination of value issues.

The seven case studies presented in UNIT 2 of *Canadian Industrialization* are as follows:

- * Automobiles: Their Past, Present, and Future
- * The Food Industry in Canada
- * Anik: The Effects of New Technology
- * Grassy Narrows: A Study of Change and Conflict
- * Kitimat: Changes and Choices
- * The Alberta Oil Sands: Creating a Resource
- * Two Families

Each of the first six case studies focuses on one specific industry and its impact or importance. Some of these studies examine the general importance of an industry, such as the production of food or the making of automobiles, that has implications for all Canadians. Other case studies are more specific, detailing the involvement of a single company or industrial plant with the economy, people, and environment of a given region or community. These first six case studies have been carefully selected to give balance to the primary, secondary, and tertiary levels of industry as they operate in Canada today.

The seventh case study is an attempt to provide a synthesis of the understandings developed in *Canadian Industrialization*. It does this by examining the interactions of two Canadian families: one in Alberta, the other in Ontario. The members of these families work in a variety of industries at the primary, secondary, and tertiary levels. Through the activities of the members of these two families, both as producers and consumers of industrial products, students are led to an understanding of the human and regional interdependence within Canada's modern industrial society.

Peter and Lynn, introduced as the two young entrepreneurs in the first chapter, "Starting an Industry," provide continuity. In addition to providing a personal, human context in which key concepts related to industrialization may be examined, the two young people also play an important instructional role. At the beginning of each case study, Lynn and Peter present the student reader with central problems or issues relating to the industry that is about to be examined. As the two characters discuss the research problems or value issues, they demonstrate to the students the inquiry skills needed to apply the general knowledge presented in UNIT 1 to the new topic in each case study. As a result, Lynn and Peter serve to focus reader interest, to provide a basis for analysis, and to establish a structure for the case study.

LEARNING ACTIVITIES

A wide range and variety of learning activities are found in *Canadian Industrialization*. Peter and Lynn provide a model for inquiry skills such as problem definition, hypothesizing, and data gathering. In addition, the text provides six categories of learning activities, using the following headings:

- Issues
- Recall
- Analysis
- Topics for Discussion and Debate
- Research Projects
- Activities

The learning activities are placed strategically throughout the student text to provide opportunities for reinforcement, application, and extension of information.

The boxed sections headed *Issues* are interspersed in Chapter 1. They require students to examine an issue in some depth, using both the resource material provided in the student text and outside information, including their own personal experiences. In general, these issue sections should teach students that value issues in a complex industrial society, such as Canada, are not easy to resolve, and that there are a variety of very legitimate points of view that may be expressed on each issue. Issue activities are also an opportunity for the teacher to have students examine the role played by different levels of government in arbitrating between conflicting points of view over value issues.

Recall questions ask students to demonstrate mastery of information found in the text. The information required may be purely factual in nature, or it may require students to define or describe key concepts or generalizations about an aspect of industrialization.

Analysis activities require students to apply knowledge or concepts previously learned to the analysis or interpretation of some new data or information. Often, the new data will be primary source material in the form of statistical tables or newspaper articles. The emphasis in the analysis activities is on the application and extension of the students' inquiry skills.

Topics for Discussion and Debate are designed to elicit student opinions on a variety of topics and issues. The major objective of this category of activities is to demonstrate the wide range of opinions and points of view that are found in a pluralistic society. The teacher should emphasize the importance of free expression of opinions and the need for good listening skills in order to understand the bases for the opinions expressed.

Research Projects require the students to go beyond the material presented in the text to acquire greater knowledge about a topic or issue under investigation. Many of the research activities in *Canadian Industrialization* direct student attention to the impact of industrial activities on their local community.

Students should not be expected to attempt all of the activities found in *Canadian Industrialization*. The authors have attempted to provide more learning activities than an individual might reasonably be expected to complete in a normal course of study. A large number of activities and a wide range of topics have been included in order that teachers, according to the needs of their students and their own philosophies of education, might be able to select those types of activities that best suit their classes. In addition, the large range of activities permits a great deal of flexibility in assigning tasks to individuals and small groups.

Activities is a heading used to indicate opportunities for creative expression. Usually calling for some form of written or visual presentation that demonstrates the students' comprehension of material studied, these activities may help to motivate or provide an opportunity for success to students who have had little experience of success in the traditional academic approaches to Social Studies instruction.

KEY CONCEPTS AND UNDERSTANDINGS

The following are the key concepts, generalizations, and understandings presented in *Canadian Industrialization*:

- Industrialization has resulted from a series of technological changes.
- Technological changes often trigger other technological changes at an accelerated pace.
- Industrialization leads to specialization of labour.
- Industrialization, through specialization, results in interdependence among workers in a given industry.
- Industrialization leads to changes in social organization.
- Industrialization leads to changes in economic activities by both producers and consumers.
- Industrialization leads to changes in the physical environment through increased demand for raw materials and energy sources and through the release of industrial wastes and by-products into the environment.
- Industrialization leads to increased production and consumption of material goods, resulting in materialism.
- Industrialization creates new markets for goods and services.
- Industrialization requires entrepreneurial leadership.
- Industrialization requires investments of capital.
- Industrialization requires skilled labour.
- Industrialization creates new demands for raw materials, leading to the development and exploitation of new natural resources.

- Industrialization changes the ways in which goods are transported and distributed.
- Industrialization leads to increased demands on government to mediate conflicts between specialized groups in an industrial society through regulatory and/or facilitating activities.
- Industrialization affects and shapes individual and group life-styles and values.
- Industrialization may lead to conflicting views of the value of industrial activities and products and of the effects on environments and life-styles.
- Industrialization may change the patterns of ownership of production in a society.
- Industrialization, through mechanization, may reduce the number of workers required to produce goods.

Each of these understandings may be stated as a learning objective, either in its general aspects or in its specific application to a given Canadian industry. In the teaching suggestions that follow this introduction, these understandings have been turned into learning objectives specific to each chapter of the student text under discussion.

HOW TO USE CANADIAN INDUSTRIALIZATION IN THE CLASSROOM

Depending on the curriculum and the amount of time available, there are a variety of ways in which *Canadian Industrialization* may be used in the classroom:

1. In a one-semester or one-term survey of Canadian industry or the Canadian economy, you may work through the entire text from start to finish with the students, doing all of the case studies and making use of as many of the activities suggested in the student text and this teacher's manual as possible.
2. In a short course, or as a unit on industrialization in a geography or social studies curriculum, you can do the first two chapters with the entire class and then divide the students into six groups, each group responsible for one case study and the research tasks therein. Students can summarize, present, and discuss their findings in terms of the seven elements of industry presented in the first chapter. You can then do the final chapter with the whole class as a means of summarizing the connections between the six industries examined.
3. Selected chapters and case studies, along with locally developed curriculum materials and other resources, can be combined in any number of ways. You might have the students work through each chapter of *Canadian Industrialization* and then do a parallel study of industry in the local community.

AN OVERVIEW OF CANADIAN INDUSTRIALIZATION, TRANSPORTATION, AND RESOURCES

As an introduction to the study of the text, you may want to give students some mapping and graphing exercises dealing with the location of industrial areas, the identification of major mineral resources, and transportation

systems. On the following pages, there are a series of reproducible exercises for your convenience. The exercises are as follows:

A. Major Mineral-Producing Areas

B. Industrial Centres

I. The Maritimes and Newfoundland

II. Quebec

III. Ontario

IV. The Prairie Provinces

V. British Columbia

C. Main Roads and Railroads

D. Manufacturing Shipments

The relevant answers are found at the back of the manual.

Various follow-up activities can be done with the maps. For example, you might begin with the maps of Major Mineral-Producing Areas and Industrial Centres. Have the students compare the location of the mineral resources with the location of industrial centres. They could also consider how the location of one influences the location of the other. In viewing the map of Main Roads and Railroads alongside the other maps, you could ask students how the location of transportation systems affects the location of resources and industrial centres.

In addition to the maps, you are provided with material that students can use for preparing a bar graph. A bar graph is used to compare statistical information in a visual form. A grid is drawn and values assigned for different bar lengths within the grid. The actual values to be represented are then calculated in relation to these bar lengths, and a separate bar is drawn on the graph to represent each value. On the bar graph provided for Manufacturing Shipments, for example, the bar for electrical products would extend from the left of the graph to the value for seven on the grid, and so forth. When the graph is completed, students will have a visual representation of the comparative value of major manufacturing shipments within Canada for 1982. Using this graph, the class could discuss the reasons for the dominance of certain manufacturing activities in Canada.

The importance of these exercises is to give students:

1. An overview of Canadian mineral resources;
2. Some idea of why industrial centres are located where they are;
3. Some initial thoughts about why certain industries are more significant than others.

If the class shows an interest in continuing this overview by an examination of energy and oil resources, you can refer to pages 39, 186, and 202 of the student text and to additional exercises found in F. Jones: *Geography Skillmasters Canada*, McGraw-Hill Ryerson, Toronto, 1982 (ISBN 0-07-092393-0), especially pages 51 to 138.

MAJOR MINERAL-PRODUCING AREAS

In Canada, the twelve minerals most exploited economically are:

ASBESTOS, COPPER, GOLD, GYPSUM, IRON, LEAD, NICKEL, POTASH, SALT, SILVER, URANIUM, ZINC

The major areas in which these are produced are shown on the map; symbols are used to represent the minerals involved. Identify the meaning of each symbol.

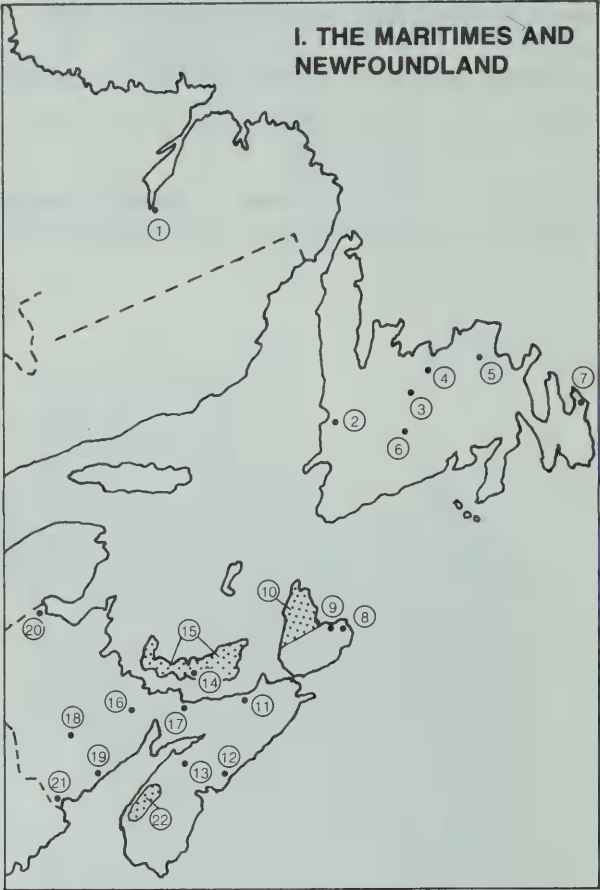


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INDUSTRIAL CENTRES

This and the other four maps in this series (to be found on ensuing pages) are designed to locate *centres of industry* across Canada. Below each map, the names of the centres are printed for you. You must locate them by taking the appropriate numbers off the map and writing them in the small space to the left of each place name. Having done this, with the aid of your atlas or other references, fill in the column to the right, saying what the main product or activity is at that location.

The first row has been done for you. In some places there will be more than one entry, so you may have to print in quite small letters to get all the information into the space provided. Consult your teacher afterwards and do corrections.

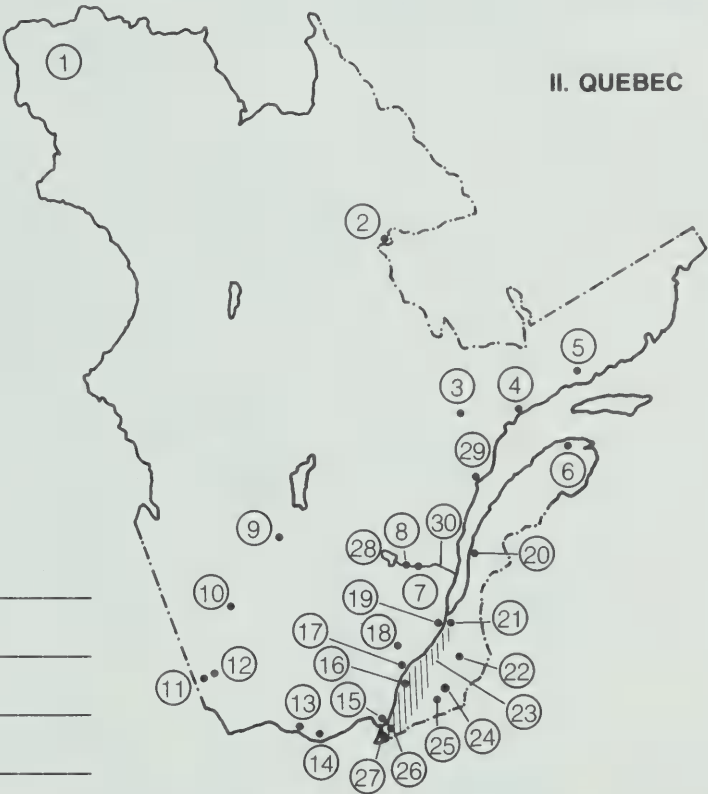


22	Annapolis Valley	APPLES AND OTHER FRUIT	Glace Bay
	Blacks Harbour		Grand Falls
	Botwood		Halifax
	Buchans		Moncton
	Cape Breton		P.E.I.
	Charlottetown		Pugwash
	Corner Brook		Saint John
	Dalhousie		St. John's
	Fredericton		Sydney
	Gander		Trenton
	Goose Bay		Windsor

INDUSTRIAL CENTRES

For instructions, see Map I.

II. QUEBEC



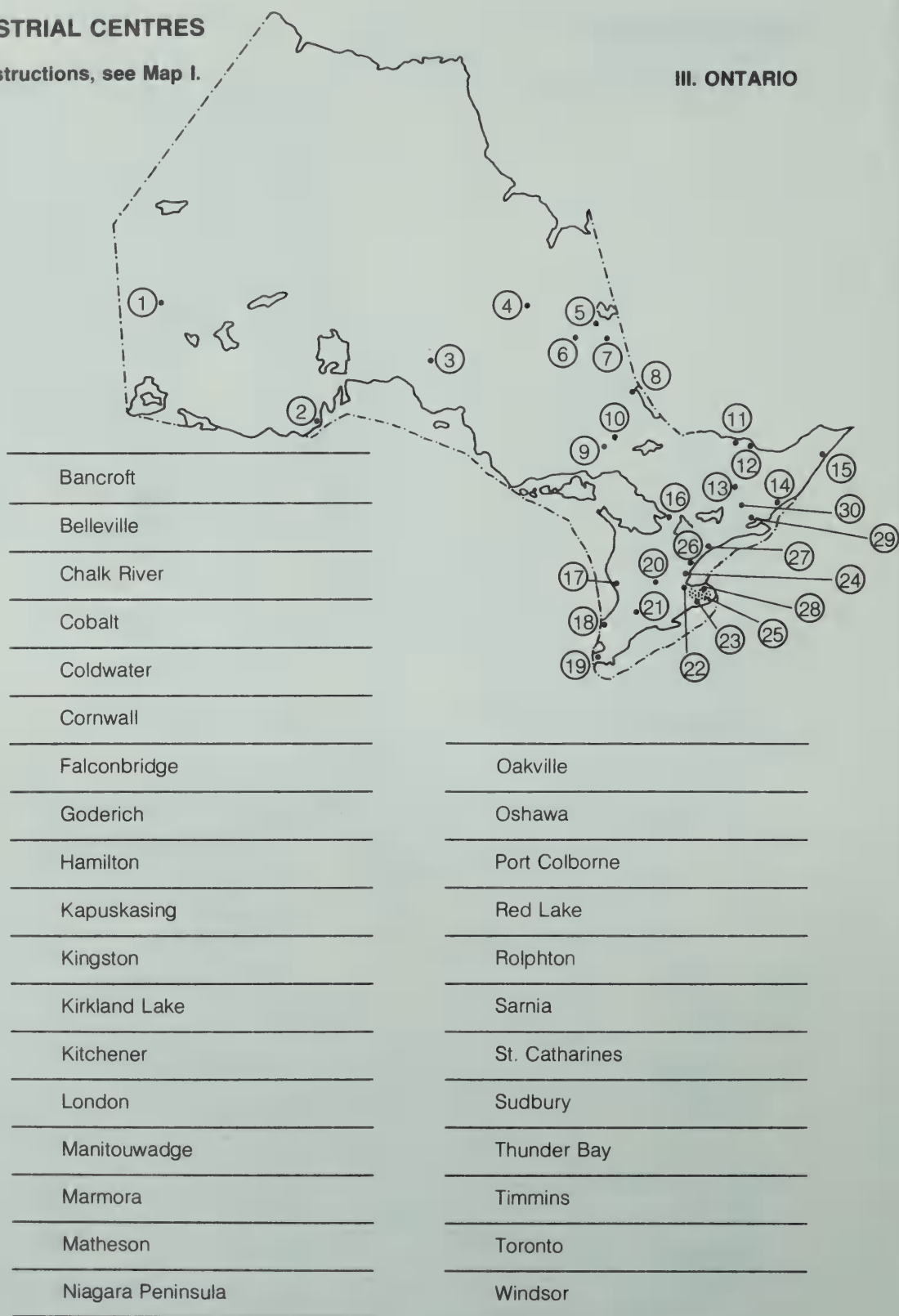
	Allard Lake
	Arvida
	Asbestos
	Baie Comeau
	Beauharnois
	Chaudière Falls
	Chibougamau
	Fort Coulonge
	Hull
	Lac St. Jean
	Malartic
	Manicouagan
	Montreal
	Murdochville
	Noranda
	Quebec City
	Rivière du Loup

	Saguenay River
	Schefferville
	Sept Îles
	Shawinigan Falls
	Sherbrooke
	Shipshaw
	Sorel
	St. Lawrence Lowlands
	Thetford Mines
	Trois Rivières
	Ungava
	Val d'Or
	Valleyfield

INDUSTRIAL CENTRES

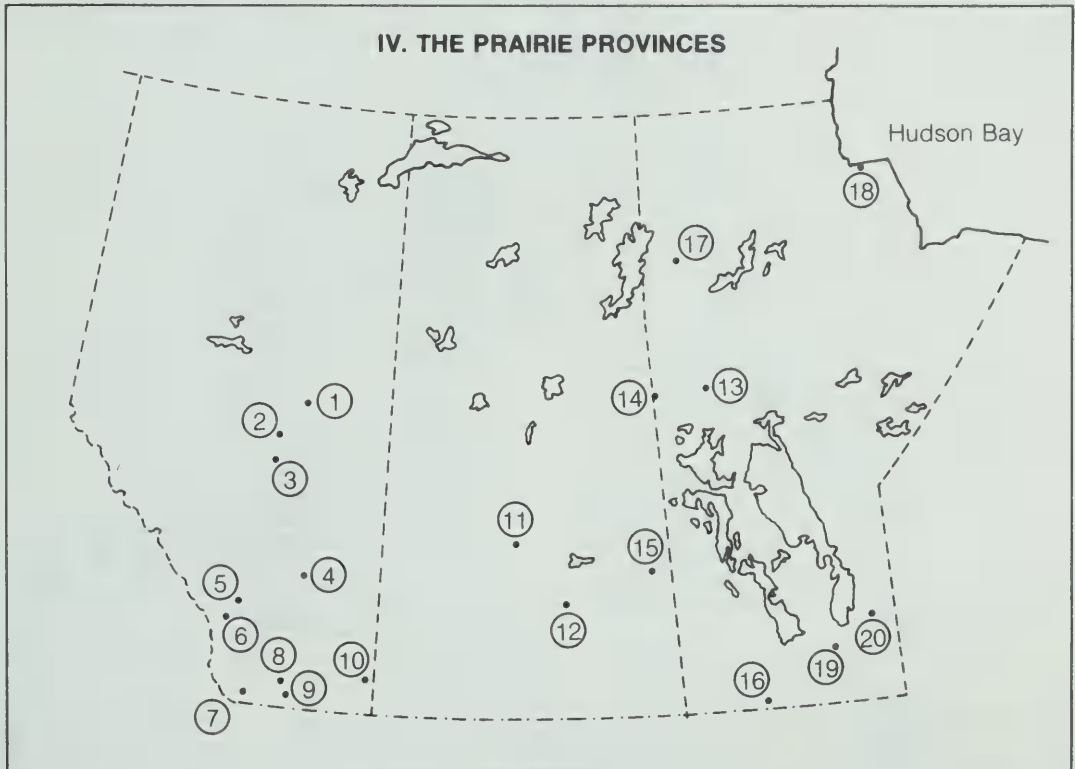
For instructions, see Map I.

III. ONTARIO



INDUSTRIAL CENTRES

For instructions, see Map I.

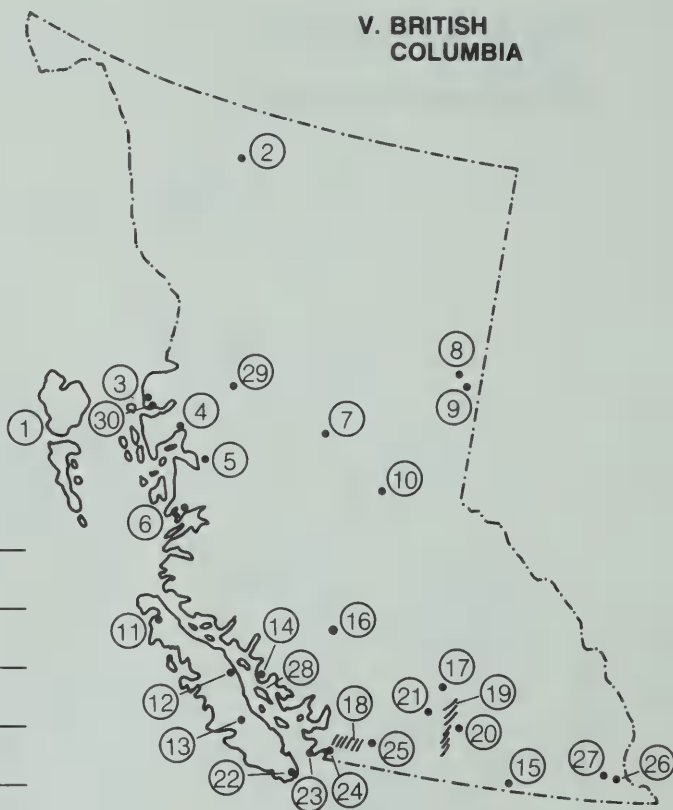


Calgary	Lynn Lake
Chisel Lake	Medicine Hat
Churchill	Pinawa
Crystal City	Pincher Creek
Drumheller	Raymond
Edmonton	Redwater
Flin Flon	Regina
Kamsack	Saskatoon
Leduc	Turner Valley
Lethbridge	Winnipeg

INDUSTRIAL CENTRES

For instructions, see Map I.

V. BRITISH
COLUMBIA



Bralorne

Campbell River

Cassiar

Dawson Creek

Endako

Esquimalt

Fernie

Fort St. John

Hope

Kamloops

Kelowna

Kemano

Kimberley

Kitimat

Lower Fraser Valley

Merritt

Ocean Falls

Okanagan Valley

Port Alberni

Port Alice

Port Edward

Port Moody

Powell River

Prince George

Prince Rupert

Queen Charlotte Islands

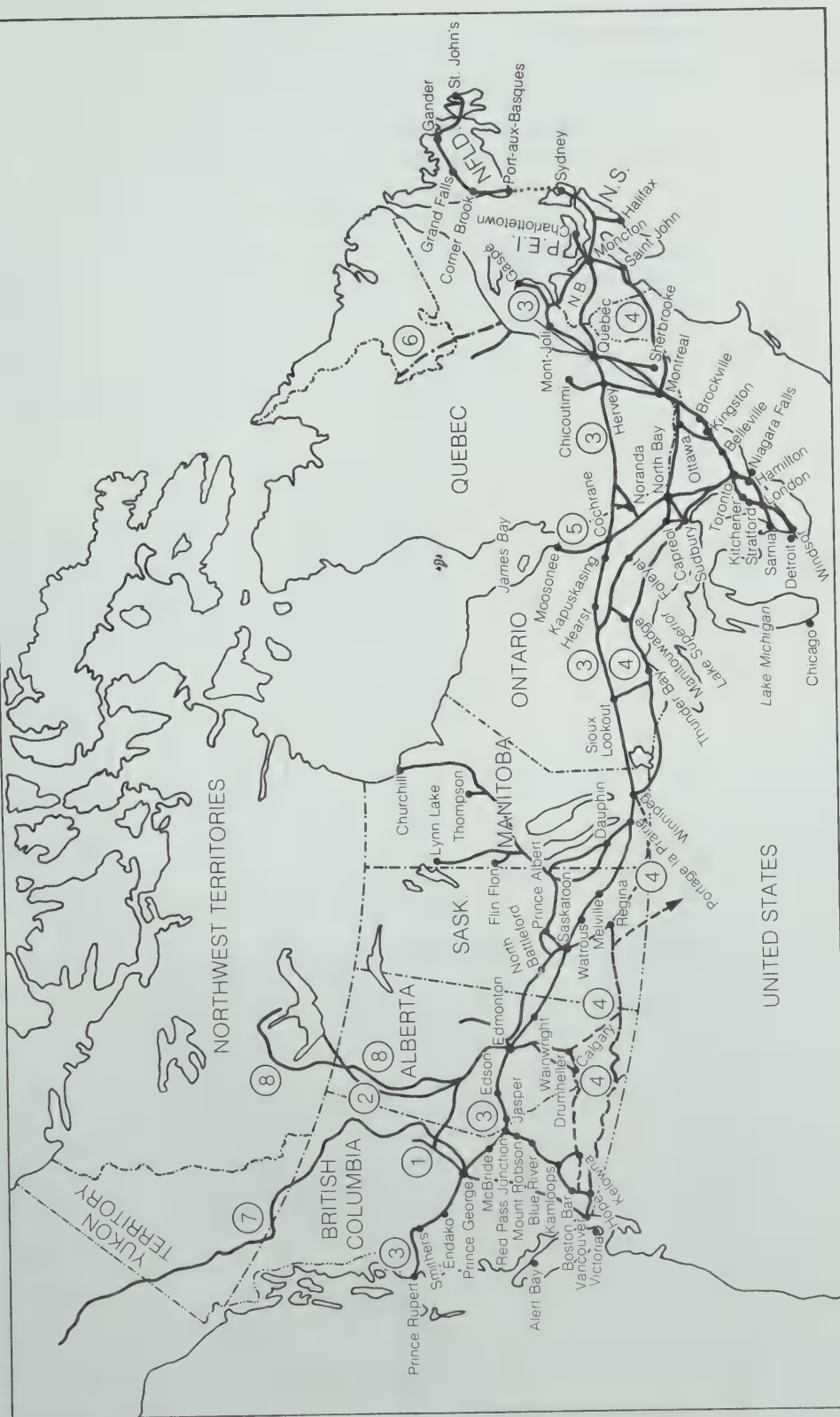
Steveston

Telkwa

Texada Island

Trail

Name Canada's six major railways and two major highways in the spaces provided.



1 2 3 4

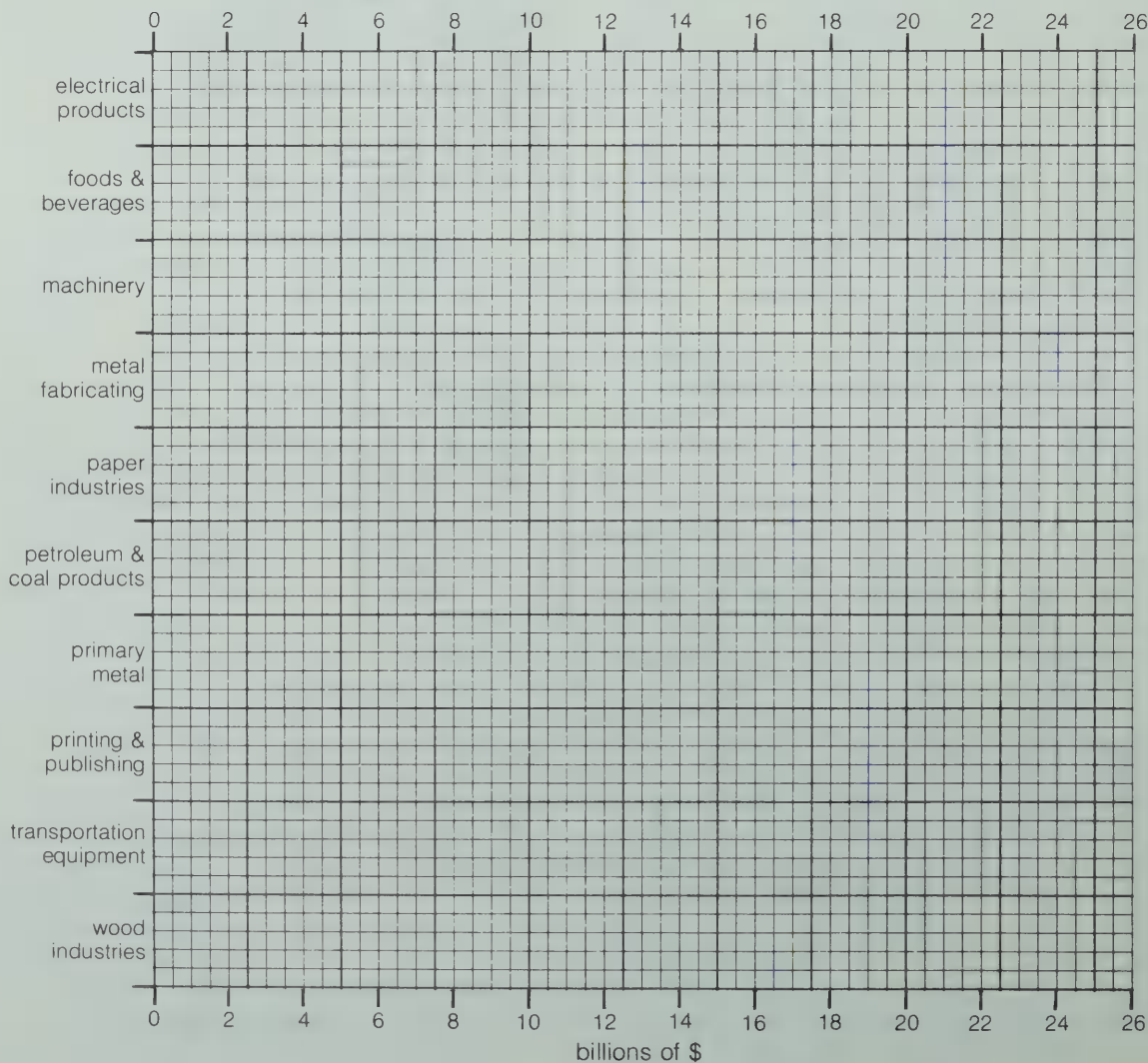
5 6 7 8

MANUFACTURING SHIPMENTS

Draw a horizontal bar graph to illustrate these statistics.

ANNUAL VALUE OF
MAJOR MANUFACTURING SHIPMENTS
(billions of \$)

Electrical products	7
Foods and beverages	26
Machinery	6
Metal fabricating	10
Paper industries	13
Petroleum and coal products	12
Primary metal	12
Printing and publishing	5
Transportation equipment	20
Wood industries	9



CHAPTER 1

STARTING AN INDUSTRY

OVERVIEW

Chapter 1 follows Peter and Lynn, two young Canadians, as they set up a new Canadian industry. The chapter is structured around the seven basic ingredients of industrial activity:

- Capital
- Labour
- Government
- Transportation
- Raw Materials
- Markets
- Energy

Each ingredient is presented in the same way:

1. The role it plays in the creation of the Lynpet Stereo Component Company;
2. Facts about the ingredient within the Canadian Industrial process;
3. Issues relating to the ingredient;
4. Related questions and activities.

The creation of the Lynpet Stereo Component Company is a fictional device used to dramatize the role played by the seven factors that are involved in the founding of a new industry. The authors wanted to create a fictional case study that was typical of the way many new Canadian industries have been created. Contrary to popular belief, most of the genuinely new industry developed in Canada is created by small companies, not large ones.

Note that Peter and Lynn begin a small industry based on their own interests and operating in a labour-intensive sector. The money they inherit from their grandfather constitutes only part of the capital they need to start their industry. Much is borrowed.

As previously stated, the purpose of the example is to demonstrate the seven factors that are involved in an industry. These factors are involved whether the industry is in a capitalist economy, mixed economy, or centrally controlled communist economy, even though the ways in which labour, capital, and government play their parts may vary from system to system. (See Examining Alternatives, page 24.)

OBJECTIVES

After completing this chapter, students should be able to:

1. List and define the seven basic ingredients of industrial activity.

2. List basic facts about the role of each ingredient in the Canadian industrial process.
3. Summarize issues relating to each of the basic ingredients in the context of Canadian industry.
4. Describe and evaluate the importance of each individual ingredient in relation to the other ingredients and to the industrial process itself.

INTRODUCING CHAPTER 1

Some of the following strategies may be useful in introducing the chapter and involving the students in the material it contains.

What Industry Would You Start?

Have the students imagine themselves in the same situation as Peter and Lynn. What industry do they think might be successful in Canada today?

Students, as individuals or groups, can decide on a product they might like to manufacture. They can create an advertising poster for their product. As they proceed through the chapter, encourage them to relate what they learn not only to the Lynpet Stereo Component Company, but perhaps to their own product as well.

Pre-test

Have a brainstorming session or give an oral or written test to determine what grasp the students have of each of the seven ingredients treated in the chapter.

Establish working definitions and some examples of each of the seven ingredients found in Grandfather's poem with the students.

Which of the Seven Ingredients Are the Most Important?

Have the students do the review exercise on page 41 on an intuitive basis before reading the chapter.

Have the students do an informed ranking after they have completed the chapter and compare it with their "intuitive" rankings.

Make a Wish

If the students could wish for any three (or two or five) of the ingredients and they knew they would be given them, which ones would they wish for and why? Return to these wishes after completing the chapter and see if the students would change their wishes.

Some considerations:

All the ingredients are important, but some can be developed, some can be bought, and still others are essential, such as government and capital.

CAPITAL

An Opening Exercise

Have the students answer the following question to determine their understanding of the concept of capital.

Q. Which of the following situations involve capital?

- (a) You buy a bike to use on your paper route.
- (b) You earn money by babysitting.
- (c) Your school raises money for uniforms by selling candy bars.
- (d) You get a birthday gift of \$20 from your grandmother.

A. (a) and (c) involve capital because you use money to make money.

Answers to Questions and Activities (pp. 8 & 9)

Recall

1. *Capital* is money or things used to make more money.
2. *Interest* is the charge that a bank or any lender of money makes for the use of the money.
3. (In this case investing means getting money for a corporation.) Three ways of investing in a corporation are by personal loan, by bank loan, or through the stock market.
4. *Foreign investment* is capital from outside the country in which it is being used.

Topics for Discussion and Debate

- 1-4. A discussion of foreign investment usually involves weighing its disadvantages against its advantages. Some suggestions:

Advantages

- New jobs
- Payment of local taxes
- Local purchases

Disadvantages

- Profits are not always reinvested and can flow out of the country.
- If foreign investment means foreign control, the company doesn't always act in the best interest of the host country.

LABOUR

An Opening Exercise

Have the students answer the following question to determine their understanding of one important aspect of the concept of labour. (Remind the students that labour means labour skilled for the job at hand. It is more than people who are willing to work.)

Q. Why would these industries have problems with labour?

- (a) A computer factory in a country with an average education of grade four
 - (b) A factory that pays \$10 per hour when a nearby factory pays \$12 per hour
- A. (a) With grade four education, it is unlikely that the people of the country have training or are trainable for work in computer manufacturing.
- (b) It is unlikely that the lower-paying factory could attract the people they need if there are jobs available at the higher-paying factory.

Fig. 1-5 (p. 10)

Q. Why are there arrows going both ways between labour and on-the-job training?

- A. The two-way arrows indicate that some industries retrain and upgrade their own employees to ensure a supply of the labour they need.

Answers to Questions and Activities (p. 15)

Recall

1. People must be either trained or trainable to be labour.
2. It provides basic education and specialized advanced training and education at vocational institutes, colleges, etc.
3. Approximately 33% of Canadian workers belong to a union.
4. Any three of the following:
 - (a) Changes in types of jobs
 - (b) An increase in the number of women
 - (c) An increase in the average annual wage
 - (d) A decrease in the average hours worked per week(See pp. 11 & 12 for details.)

GOVERNMENT

An Opening Exercise

Have the students answer the following question to demonstrate their

awareness of the importance of government in industrial activity.

- Q. In which of the following countries would you build your factory? Where would you not build it? Why?
- (a) Cheap land is available in a country that has just had a revolution. The overthrown government has vowed to regain power.
 - (b) A country offers new industries tax exemption for a period of 10 years.
 - (c) A country has a government that restricts profits to five percent, decides how much you may produce, and to whom you may sell your product.
 - (d) A country has a government that pays for education up to grade 12, has many vocational institutes, and has a government-sponsored apprenticeship program.
4. (a) The unstable political situation should deter investment.
(b) Investment should be attracted.
(c) The high level of government control should deter investment.
(d) Government-subsidized education providing trained labour should attract investment.

Answers to Questions and Activities (p. 20)

Recall

1. They provide services for industry and regulate industry.
2. Any of the following:
- | <u>Municipal</u> | <u>Provincial</u> | <u>Federal</u> |
|-------------------|----------------------|------------------------|
| Police protection | Major roads | Major highways |
| Fire protection | Energy | Railroads |
| Industrial land | Tax breaks | Airports |
| Water and sewage | Schools and training | Foreign trade contacts |
| Local roads | | Legal system |
| | | Tax incentives |
3. Any of the following:
- | <u>Municipal</u> | <u>Provincial</u> | <u>Federal</u> |
|---------------------|-----------------------|--------------------|
| Truck routes | Minimum wage | Foreign trade laws |
| Building codes | Pollution standards | Safety standards |
| Pollution standards | Transport regulations | Labour laws |
| Zoning restrictions | Labour laws | Transport rates |
| Hours of operation | Advertising laws | Taxes |
| Taxes | Safety standards | |
| | Taxes | |

TRANSPORTATION

An Opening Exercise

Students may be introduced to the importance of transportation as a cost and location factor by doing the exercise on page 23.

Answers to Questions and Activities (p. 28)

Recall

1. The main benefit is keeping transportation costs down.

2. Railways move 50% of all freight while ships handle 25%.
3. The St. Lawrence Seaway is the major transportation link.
4. Railways have traditionally been linked to new resource finds and have led the way into territory where new resources have been found.
5. Liquid: moves oil or gas in liquid or gaseous state
 Slurry: moves minerals such as coal suspended in reusable liquid
 Capsule: materials are placed in capsules which are placed in liquid and moved through the pipeline

Additional Topics for Discussion and Debate

1. The government should spend the money on new rail lines to encourage development in new areas.
2. The resource companies will go into an area when they're hungry enough. Let them pay for the cost of the railway if they want the profits so badly.
3. Resource companies will go wherever they find the most encouragement from government.

RAW MATERIALS

An Opening Exercise

Students should do the following exercise in order to ensure that they understand the difference between raw materials and semi-manufactured goods.

- Q. Which of the following are raw materials and which are semi-manufactured goods?
 trees--steel--iron--boards--sand--coal--glass--wire
- A. Trees, iron, sand, and coal are raw materials.

Additional Questions and Activities

1. With whom do you agree: Johnny Canuck or Rita Realist? (See pp. 29 & 31.) Why?
2. What examples are there of special Canadian products that have experienced success in the world markets?
 - A. Some examples are the ski-doo, the Candu reactor, and the Telidon computer graphic system that made the photo for the cover of the student textbook.
3. (a) Think of a product in which Canada might specialize in order to imitate the success of the Danes with their furniture, the Swedes with their Volvo, and the French with their wines and fashions.

- (b) As an individual or in groups develop an advertising program to promote this new product.
4. (a) If you lived in a non-industrial country that had lots of trees, some coal, and some good agricultural land and you wanted to start to industrialize, would you:
- i. invite foreign companies to come in and build pulp mills?
 - ii. cut down some of the trees and sell the logs to other countries, saving the profits to eventually build sawmills to make boards from logs?
 - iii. borrow money to build the sawmills now and sell the lumber to other countries? (Remember the interest you pay on loans.)
 - iv. save the coal to power the industry that you will develop later?
 - v. sell the coal now to get money to build an industry?
- (b) What other plans can you think of to turn your country into an industrial one using the raw materials that you have?

MARKETS

An Opening Exercise

Students may be introduced to the concept of a market by discovering what is necessary for a market to exist. Have the students answer the following question.

- Q. Are you and the people in your class a market for:
- (a) hamburgers and fries?
 - (b) grand pianos?
 - (c) spinach salad?
 - (d) rock and roll records?
 - (e) classical music recordings?
 - (f) video cassette recorders?
- Why or why not?

- A. The conclusion should be that a market exists only when you have people who have both the desire for a product and the money to buy it.

Questions and Activities (p. 34)

Recall (The first two questions relate to the section on raw materials.)

1. The basis for industry is taking raw materials or semi-manufactured products and changing them so they are worth more than when you started.
2. Primary industry: extracts raw materials (e.g., coal, trees)
Secondary industry: uses raw materials or semi-manufactured products to manufacture new products
Tertiary industry: provides a service (e.g., telephone, insurance)

3. The two major advantages are reduced transportation costs and maintaining a knowledge of market conditions.
4. people + desire for the product + enough money to buy it
5. *Economy of scale* is the savings in costs that come from manufacturing a product in large numbers.

ENERGY

An Opening Exercise

Have the students answer the following question to indicate their knowledge of the three types of electrical generation and the advantages of each.

Which type of electrical energy would you choose for your home or industry and why?

- (a) Hydro-electricity
- (b) Thermal electricity
- (c) Nuclear electricity

Would your choice change if you wanted to be certain there would be electricity for your factory in 100 years?

QUESTIONS AND ACTIVITIES (pp. 40 & 41)

Recall

1. Electricity is the most often used form of energy in Canadian industry.
2. (a) Three ways of generating electricity are hydro, thermal, and nuclear.

(b) TYPE	ADVANTAGES	DISADVANTAGES
Hydro	Renewable	Must locate at falling water Environmental impact of dams Loss of power in long transmission lines
Thermal	Located close to users	Uses non-renewable fossil fuels Air pollution from burning fossil fuels (acid rain)
Nuclear	Located close to users Assured long-term fuel supply	Disposal of radio-active waste products Possibility of catastrophic accidents

Review

The exercise on page 41 is designed to have students review what they have learned about each of the seven ingredients by asking them to rank them in order of importance. If students have already done the exercise as an opening exercise to the chapter, they can now compare their original ranking of each ingredient with their ranking now as a result of new knowledge.

The chart below is an example of what a typical result to the exercise might look like:

INGREDIENT	ORDER OF IMPORTANCE							Total
	1	2	3	4	5	6	7	
Capital	5 x 1	6 x 2	4 x 3	4 x 4	2 x 5	3 x 6	1 x 7	80
Labour	6 x 1	8 x 2	5 x 3	0 x 4	0 x 5	1 x 6	5 x 7	78
Government	7 x 1	7 x 2	5 x 3	3 x 4	0 x 5	3 x 6	0 x 7	66
Transportation	1 x 1	0 x 2	0 x 3	5 x 4	7 x 5	10 x 6	2 x 7	130
Raw Materials	3 x 1	5 x 2	5 x 3	8 x 4	1 x 5	2 x 6	1 x 7	84
Markets	2 x 1	3 x 2	3 x 3	9 x 4	2 x 5	4 x 6	2 x 7	101
Energy	4 x 1	3 x 2	3 x 3	4 x 4	0 x 5	2 x 6	9 x 7	110

In the above example *capital* was ranked first by five students, second by six students, third by four students, etc. The number of students giving that ranking is then multiplied by the value of the ranking. Finally the sum of the products is entered in the Total column.

The above example indicates that the class of 25 students collectively ranked the ingredients in this order: government, labour, capital, raw materials, markets, energy, transportation.

Students can now compare their individual ranking to the collective ranking of the class and review each of the ingredients by defending their rankings.

Note that there is no "correct" ranking. The purpose of the exercise is to help students experience, even in this artificial setting, the problem faced by the businessperson in establishing a new industry. You might point out to the class that, no matter what decision the businessperson makes, there always remains that question: Did I do the right thing? Life is untidy!

EXAMINING ALTERNATIVES

Have the students hypothesize about how the seven factors might be involved in each of the following industries:

- (a) The establishment of an oil refining operation by an Indian band on its reserve near Edmonton
- (b) The establishment of a plant to make a new seed drill by a co-operative comprised of Manitoba farmers
- (c) The establishment by the province of Quebec of a high technology automobile assembly plant to make robots for welding car bodies

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CHAPTER 2

THE GROWTH OF INDUSTRY

OVERVIEW

Chapter 2 provides a survey history of the economic development of Canada from its pre-industrial hunting and farming roots, through early industrialization during the 19th century, into the complex modern industrial nation it is today. Three key questions are explored by the student working through this chapter:

1. What kind of societies existed in Canada prior to industrialization?
2. How has industrialization changed Canada?
3. What are some of the issues and problems faced by Canada and Canadians as a modern industrial society?

OBJECTIVES

After completing this chapter, students should be able to:

1. Define, in their own words, the terms *industrial society* and *pre-industrial society*.
2. Contrast pre-industrial and industrial societies with respect to:
 - (a) Main economic activities
 - (b) Use of technology
 - (c) Specialization
 - (d) Social organization
3. State similarities and differences between native and European pre-industrial societies in Canada.
4. Describe the role played by towns in the early stages of industrial development in Canada.
5. Apply knowledge of the Industrial Revolution in Britain to an analysis of the rise of the factory system in Canada.
6. Describe and discuss the importance of each of the following to the growth of industrialization in Canada:
 - (a) The factory system
 - (b) The steam engine
 - (c) Iron and steel
 - (d) Farm technology
 - (e) The textile industry
 - (f) Pulp and paper making
 - (g) Communications and transportation

7. State and discuss the importance of each of the following in Canada as an industrial nation today:
 - (a) Foreign ownership
 - (b) Energy consumption
 - (c) The growth of the service sector
8. Prepare a time-line summarizing the chronology of industrialization in Canada.
9. Compare and contrast pre-industrial social organization in Canada with the social structure of modern industrial Canada.

INTRODUCING CHAPTER 2

Before beginning the chapter, it is recommended that you pre-test the students' knowledge of the Industrial Revolution in Britain, since many of the concepts and most of the understandings in this chapter assume a good basic knowledge of the Industrial Revolution. However, it is recommended that any review of the Industrial Revolution be done in conjunction with the teaching of the content of the chapter, rather than prior to it. The following strategies may be useful to you as you introduce this chapter.

Brainstorming

Have the students imagine what their community was like 100 years ago, 200 years ago, and 500 years ago. Examine how the ways we feed ourselves, dress ourselves, move from place to place, and meet our other material needs have changed. Then have the students try to account for the reasons why these things have changed.

Have students try to identify the time when the way of life of people in their local area began to change most dramatically.

Role-Playing

Have a group of students role-play that they are stranded on a large island in the middle of a lake in a remote northern area of your province, following an accident on a canoe trip. All of their supplies and equipment have been lost in the accident. They must consider how to meet their basic needs for food, clothing, and shelter and how to get off the island on which they are stranded.

When you debrief the players after the role-playing, focus on the use of resources and the things needed to transform these resources to meet the group's needs. Determine how the group organized itself to meet the basic needs and the jobs that each member would have to do.

Then, with the whole class, compare the way the role-players met their needs with the ways these needs are met in Canada today.

TWO TYPES OF SOCIETY

Introduce and define the terms *industrial* and *pre-industrial*. Ask students to briefly recall their knowledge of the Industrial Revolution in Britain and of its impact on the lives of people in that country at the beginning of the 19th century.

Divide the class into six teams. Give each team a topic and a data retrieval chart with two columns, one headed PRE-INDUSTRIAL and one headed INDUSTRIAL. Each team will list on its sheet all the ways in which one of the following topics changed as Canada shifted from a pre-industrial society to an industrial society:

- Science and education
- Getting, storing, and preparing food
- The use of human skills to produce goods
- Health and human well-being
- Towns, cities, and villages
- Transportation

Have students read pages 42 to 46 in their texts. Then have them write, in their own words, definitions of the terms *pre-industrial* and *industrial*.

INDUSTRY IN CANADA

Define for the class the term *post-industrial society* (i.e., a society in which mechanized and automated production of goods reduces demand for human labour in the manufacturing sector to the point where the service and leisure sectors of the economy dominate human activity). Have students predict the ways in which the growing use of computers and automation will affect Canadian society.

PRE-INDUSTRIAL CANADA

This section can be covered either through a lecture, by a reading and discussion approach, or by dividing the class into four teams and having each team research one part of activity 1 on page 49, using pages 46 through 49 and their school library as sources of data.

A COMPARISON OF PRE-INDUSTRIAL LIFE IN CANADA AND EUROPE

Have students read and discuss pages 48 and 49, then do activity 3 on page 49.

EARLY EUROPEAN EXPLOITATION OF CANADA'S RESOURCES

Have students read pages 49 to 51, then use questions 1, 3, and 4 on page 51 as the basis for a classroom discussion.

EUROPEAN AGRICULTURAL SETTLEMENT IN CANADA

After reading pages 51 through 54, have students compare and contrast French and English economic activities in North America in the 17th and 18th centuries. Discuss how one approach created a more stable and permanent social system than the other.

REVIEW QUIZ

At this point you may wish to have your students review what they have learned about pre-industrial Canada. The following is a brief quiz you may wish to use:

1. In your own words, define the term *pre-industrial society*.
2. Describe how each of the following groups met the criteria of a pre-industrial society:
 - (a) The Indians of the Pacific Coast
 - (b) The Indians of the Eastern Woodlands
 - (c) The European settlers of early New France
3. What technological advantages did the European newcomers to Canada enjoy that the native peoples living here did not?
4. In your opinion, which of the native societies of Canada was most similar to that of 16th century Europe? Which was the most different? Give reasons for your selections.

EARLY TOWN LIFE IN CANADA

Define the terms *urban* and *rural* for your class (or have pupils define these terms). Ask the class which of the two settings is most likely to see industrial activity begin and why. Then have the students read pages 54 through 59 in their texts. Discuss whether or not they can see the beginnings of industrial activity in the description of early town life they have just read.

Answers to Recall, Analysis, and Activity (p. 59)

1. It was able to support a large population and created a market for manufactured goods.
2. Industrialization and prosperity led to a desire by colonists to gain greater control over their own economy; this required a change in political systems.
3. Water, animal, and human power were the main sources.

THE RISE OF THE FACTORY SYSTEM IN CANADA

Have students define the word *factory*. Have them share their impressions of what a factory looks like and what it would be like to work in. Review with the students the fact that the factory system first developed in Britain during the Industrial Revolution. If appropriate, review the developments that took place in the Industrial Revolution in each of the following areas as you work through this section of the student text:

- The first factories
- The steam engine
- Iron and steel
- Farm technology
- The textile industry
- Pulp and paper manufacturing
- Communication and transportation industries

The Role of Individual Inventors and Entrepreneurs

Have students prepare and present biographies of the important men and women whose names are mentioned in this section of the text. Discuss with the class reasons why almost all of the names are of men and what this implies about Canadian values in the 19th century. Ask them whether a list of important figures in Canada's economic and scientific communities today would include more women, and if so, why.

Extension Activity

Have students prepare a large wall chart similar to the one found on page 214 showing connections between the seven industrial elements listed above.

REVIEW

Have pupils review the period of industrialization in Canada during the late 19th and early 20th centuries by doing the activities on pages 66, 71, and 72. You may wish to have students hold a "world's fair of industry" to present their findings. Remind the class that world's fairs were a product of the Industrial Revolution and were showcases for the great technological advances of the period.

INDUSTRIAL CANADA TODAY

A suggested approach to this topic involves using a discrepant event to stimulate inquiry. Start by asking students if they know why Canada is less industrialized than it was 60 years ago. (It is true that fewer Canadians today are employed in manufacturing than in 1920, even though we are far more dependent on manufactured products.)

A second possible introduction would be a discussion of the question "Who controls Canada's economy?" Such issues as the role of the National Energy Policy or FIRA might be examined in this discussion.

Have students read pages 72 to 74 in their texts and discuss the above issues applying their new knowledge.

INDUSTRIALIZATION AND ENERGY DEMAND

Have students review the role of energy consumption in industrialization which they examined in Chapter 1. Then have them read pages 74 through 82 in their texts. Have students prepare a time-line showing changes in energy use in Canada. For each period, they should explain why the type of energy used was the most appropriate for the time.

POST-INDUSTRIAL SERVICE INDUSTRIES

Define for your students the three main types of economic activity (also called *industrial sectors*):

1. Primary industries -- producing food and raw materials
2. Secondary industries -- manufacturing goods
3. Tertiary industries -- providing services

In pre-industrial economies and societies, the primary sector is dominant. Industrial societies have a large proportion of the population working in the secondary industrial sector. Now, many developed nations are finding that the majority of their employees are in the service sector. Sociologists and economists are beginning to use the term *post-industrial* to describe such societies. Have students read pages 82 through 84 of their texts and then use the questions on page 84 as the basis for a classroom discussion as to whether Canada has become a post-industrial society.

REVIEW

Have the class prepare a large wall time-line showing the development of Canada from its earliest pre-industrial roots. Have students use a different colour of paper for the pre-industrial, industrial, and post-industrial stages of Canada's history. The time-line should then be labelled with important events and dates.

GENERAL QUESTIONS AND ACTIVITIES (p.85)

Recall

1. (a) An industry is an organization established to co-ordinate the production, distribution, and marketing of a product or service.

2. Any three of the following:
- High levels of specialization
 - High levels of energy consumption
 - High mass consumption of convenience goods
 - High levels of mechanization of production

EXAMINING ALTERNATIVES

Have the students hypothesize about the possible impact on native peoples' life-styles if the first European explorers and settlers of North America had not had iron and gunpowder technologies.

Encourage the students to speculate as to the result of contact between Europeans and native peoples had the Europeans brought to North America an economic and political system based on values of co-operation among all people and respect for nature.

Invite conjecture as to how Canada's development as a nation might have been different if the steam engine had never been invented.

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- Garrod, Stan, Fred McFadden, and Rosemary Neering: *Canada: Growth of a Nation*, Fitzhenry and Whiteside, Toronto, 1980.
- The following books from *The Canadians* (a series of biographies of prominent figures in Canada's history) deal with inventors or entrepreneurs who have played important roles in this country's economic history:
- Bassett, John: *Samuel Cunard*, Fitzhenry & Whiteside, Toronto, 1974.
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CHAPTER 3

AUTOMOBILES IN CANADA: THEIR PAST, PRESENT, AND FUTURE

OVERVIEW

Chapter 3 follows Peter and Lynn as they answer the following questions about the Canadian automobile industry:

1. When was Canada a world leader in the automobile industry?
2. How did Henry Ford change the automobile industry?
3. How did the Canadian automobile industry grow?
4. What problems exist in the Canadian automobile industry?
5. What are some solutions to the problems?
6. What is the future of the automobile in Canada?

OBJECTIVES

After completing this case study, students should be able to:

1. Recount the early success of the Canadian automobile industry.
2. Describe the assembly line manufacturing process.
3. Summarize the effects of the assembly line process on the automobile industry in Canada and the United States.
4. Summarize the events which led to the formation of the present day Canadian automobile industry.
5. Describe and evaluate the Autopact agreement.
6. List the problems of the Canadian automobile industry.
7. Describe and evaluate possible solutions to the problems of the automobile industry.
8. Speculate on the future of the automobile and the industry in Canadian society.
9. Discuss the assembly line from a worker's point of view.

INTRODUCING CHAPTER 3

The following strategy may be useful in introducing the chapter and involving the students with material that it contains.

Prediction

Have students give their intuitive answers to the following questions, the answers to which are found in the chapter.

1. How many new cars did Canadians buy in 1981?
2. How much money did they spend doing it?
3. Name the companies that make cars in Canada.
4. Name two automobile manufacturing centres.
5. Which of these Canadian industries employs more people than any other industry:
 - (a) Agriculture
 - (b) Forestry
 - (c) Auto manufacturing
 - (d) Steel manufacturing
6. Which of the above industries makes the most money?

A WORLD LEADER

When a new industry such as car manufacturing begins, it is not unusual for there to be a large number of companies entering the market. Eventually many drop out.

A similar pattern was seen in the television manufacturing industry during the 1950s and 60s. Students can grasp this idea by surveying their parents for the names of automobiles and televisions no longer being manufactured.

Challenge the students to name companies that no longer exist even though the product they made or sold is still being sold by other companies.

HENRY FORD

The Assembly Line

Student awareness of the advantages and the disadvantages of the assembly line may be heightened by doing activity 1 on chopped egg sandwiches found on page 105.

Alternatively, conduct the following activity:

1. As a class, design a product that requires simple materials and several steps in its manufacture.
2. Give the students a set period of time in which to make the product on their own.
3. Have the students keep track of their production time. Find the total production time for all the students.
4. Arrange students into an assembly line to produce the same product.
5. Have the assembly line manufacture the product in the same amount of time as the individual students had.
6. Compare the productivity of the individual students with that of the assembly line.
7. Ask students which production system they would rather own and why.
8. Ask students in which production system they would rather work and why.

GROWTH OF THE INDUSTRY

Have students check their intuitive answers to the questions given in the opening exercise against the figures and facts given in their texts. Were there any surprises? Did they remember to include Volvo as one of the companies that makes cars in Canada?

Recall and Analysis (p. 93)

1. Canada was a world leader in the auto industry from 1900 to 1920.
2. (a) He developed the assembly line technique of manufacturing.
(b) It lowered the price substantially in relation to the competition.
(c) It drove them out of business because they could not compete, and it forced others to adopt the methods used by Ford.
3. They set up assembly plants in Canada.
4. (b) It caused the price to rise because the Canadian plants did not enjoy the same "economies of scale" that the American plants did.

Analysis (p. 95)

1. American suppliers may be unable to supply the parts due to strikes or other situations. This could force Canadian auto manufacturers to shut down, putting Canadians out of work.

2. Some discussion points:

(a)

- By helping Chrysler, the government saved thousands of Canadian jobs.
- The government used taxpayers' money to do this. The profits of Chrysler still go to Chrysler, although there is some interest on the loans that goes to the government.
- If Chrysler goes out of business despite the help, the Canadian taxpayer has lost the money that was loaned to Chrysler.

(b)

- The president of Ford might not feel too good about having some of the taxes his company has paid used to help one of his major competitors.
- He might feel better, though, if he foresees the need by his company for the same kind of help someday.

POSSIBLE SOLUTIONS

a. Create a North American Market for Cars

This possible solution holds obvious advantages for Canadian car makers by giving them access to the huge American market and enabling Canadian consumers to buy cheaper American cars. Have the students consider the following:

1. What is in it for the Americans?
2. Is it worth it to them to give Canada access to their market in return for access to the relatively small Canadian market? (Remind students that the Americans already benefit from the Canadian market, because American companies own the Canadian car companies and share in their profits.)
3. If, in a "free trade" situation, the car companies had to cut production and lay off workers, would they think of the American or the Canadian workers first?

b. Create a Canadian-Owned Automobile Industry

Students might be asked to "design" a car for a special market they think exists.

Students can research the Bricklin and the attempt made in New Brunswick to set up a Canadian car industry during the late 1970s.

Analysis and Research (p. 99)

1. Because it is the trend for smaller models to be gaining a larger share of the market, these are the models that should be built in Canada to bring in increased sales and more jobs. Conversely, the larger, less popular models would not sell as well and would, therefore, not be as good for the Canadian economy.

However, you should point out that in the early 1980s, some Canadian automobile plants stayed open because they were building popular American medium-sized cars. At the same time, some American plants were closed because the small cars that they were building did not sell. Have the students try to explain this. Ask them what else is involved besides the size of cars. (You can direct students into a discussion of quality.)

2. (a) The ski-doo was a brand new product and Bombardier was the first to market it. The company had great initial success because there was no competition. This is not the case in the automobile industry. Canadians would have to take a share of the market away from existing car companies.
- (b) Many other companies have entered the ski-doo industry and now successfully compete with Bombardier for a share of the market.

THE INDUSTRY'S FUTURE

Improvements in Working Conditions

If students have done the assembly line exercise suggested in the section on Henry Ford, you could ask them to describe their experience on the assembly line.

- Did they like doing the same job all the time?
- Did it help them get better at their job?
- Would they like to be able to rotate to different jobs on the assembly line?
- Would this rotation help or hinder the efficiency of the line?
- What reason would management have for keeping them at the same job?
- If students had jobs they liked, how would they feel about having to rotate into jobs they didn't like?

Students can now compare their feelings with the changes made in the Volvo plant as listed on pages 100 and 101 of the text.

GENERAL QUESTIONS AND ACTIVITIES (p.104)

Recall

1. Most automobile manufacturing is carried out in Ontario because that location places the assembly plants close to the major Canadian markets and cuts down on transportation costs involved in distributing the cars. This location also places Canadian car manufacturing centres close to the automobile manufacturing centres in the United States. This pattern was established when Henry Ford put up the first assembly plant in Windsor, Ontario, which is just across the river from Detroit.
2. The industry is comprised of two major parts: one which manufactures parts for sale to the major manufacturers, and the other section which assembles the finished automobile, such as General Motors, Ford, and Chrysler.

EXAMINING ALTERNATIVES

Explore with the students the various alternatives to the automobile for long and short distance travel. For each alternative identified, have the students discuss the social and economic implications, the impact on the environment, and the sources of energy involved. Have the class draw up a chart summarizing the results of their discussion.

Have the students hypothesize as to how their lives would be different if they lived in a society without automobiles. Direct the discussion to the impact on social relationships, values, and our view of time.

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- Dykes, James G.: *Canada's Automobile Industry*, McGraw-Hill Ryerson, Toronto, 1970.

RELATED FILMS

Ford Motor Company of Canada:

The Car Is Born, 27 min.

Change by Design, 27 min.

The World of Ford, 25 min.

The World of Henry Ford, 35 min.

Note: All of the above 16 mm films are available on loan through the Oakville Public Library, 120 Navy Street, Oakville, Ontario, L6J 2Z4, and will be shipped to any location in Canada.

CHAPTER 4

THE FOOD INDUSTRY IN CANADA

OVERVIEW

In this case study, students examine the way in which the most traditional of all pre-industrial economic activities -- the producing or gathering of food -- has been affected by industrialization and technological change. A major theme in this chapter is the dependence most Canadians experience as a result of the loss of self-sufficiency in food production. Canadians are increasingly dependent on a few producers, distributors, and retailers of food products as a result of concentration of ownership in the food industry. Again, a major value issue arises. The industrialization of food production and selling has resulted in greater convenience and a wider range of products but has also meant a reduction in competition and the virtual elimination of the family farm in some parts of Canada. Students are to examine the issue: Convenience at what price?

Two inquiry questions are posed by Peter and Lynn in the introduction to the chapter:

1. To what extent has industrialization changed farming in Canada?
2. How has industrialization changed the ways in which food is processed, distributed, and sold in Canada?

These questions will help students to focus on the most significant information contained in this case study.

OBJECTIVES

After completing this case study, students should be able to:

1. Use inquiry skills to answer the two questions identified in the overview.
2. Use and interpret charts and tables as sources of data when answering research questions.
3. Relate information in the chapter on Canada's economic history to the topic examined in this case study.
4. Define, in their own words, *vertical integration*.
5. Discuss the impact of vertical integration on:
 - (a) The companies that dominate Canada's food industry
 - (b) Competing smaller companies
 - (c) Consumers
6. Define, in their own words, the term *concentration of ownership*.

7. Discuss the impact of concentration of ownership on:
 - (a) Consumers
 - (b) Small-farm operators
8. Read newspaper articles as sources of information on value issues, being mindful of points of view and bias when using such primary sources.
9. Make their own reasoned evaluations and decisions concerning the impact of changes in Canada's food industry in recent years.

INTRODUCING THE CASE STUDY

The following passage may be used by you to introduce this topic:

Food. It's something we all take for granted. But do we ever stop to think about where our breakfast really came from? Do we know the complex set of relationships between producers and consumers that go into that fast food submarine sandwich or pizza we have after school?

You can begin this case study by having your students brainstorm about these questions.

A particularly good way to examine the topic is for each student to pick a favourite food and try to make a "family tree" for that item, tracing its roots all the way back to when the basic ingredients were planted, tended, and harvested: a sort of "roots" type activity. Students do the research on their food after presenting their hypotheses to classmates in the brainstorming session.

Alternatively, have students brainstorm about changes in the way food has been produced, processed, sold, and prepared in:

- (a) Their local community over the past 100 years
- (b) Their family over the past 150 years

Again, have students do the research necessary to test their hypotheses.

(Note: The hypotheses-testing activities may be developmental, that is, carried out on an on-going basis while the students are working through the case study.)

Then have the students read pages 107 and 108 in their texts. Use the questions on page 108 as the basis for pre-testing the pupils' knowledge of farming and the food industry in Canada. After you have reviewed the students' answers, return them to the students to save until they have completed the case study.

THE FARMING INDUSTRY IN CANADA TODAY

Six key characteristics of Canadian farming are set out and developed in this section:

1. High levels of mechanization
2. Increased specialization
3. Larger farm units
4. Scientific methods of farming
5. Increased government intervention
6. Increased concentration of ownership

Another understanding inherent in this section is the demographic change that has seen the number of people living in rural areas and engaged in agriculture drop dramatically over the 20th century.

Have students discuss the above concepts in the context of what they know about the Industrial Revolution and the information they obtained in the first two chapters of *Canadian Industrialization*.

Answers to Recall (p. 115)

1. (a) *Competition* is the attempt to achieve greater economic success than other producers or sellers of the same product or commodity.
- (b) Competition has tended to result in larger farm units as less successful farmers are forced out of business and more successful operators acquire their land to add to their prosperous farm operations.

Answers to Analysis (p. 117)

These are basically value questions and students' answers may vary. Remind students that governments attempt to act in the best interests of social groups, even though all individuals might not benefit equally from the government's actions.

THE FOOD INDUSTRY IN CANADA

After reading the introduction to this section in their text, students should read the article "Family farm squeeze" on pages 118 and 119. Then have students use the Recall and Analysis questions on page 120 as the basis for a classroom discussion.

Answers to Recall and Analysis (p. 120)

1. He suggests that the McCain companies cause some small-farm owners to go out of business through:
 - Unfair competition from McCains' own farm operations
 - Charging high prices or interest rates on things such as fertilizer, sold through McCains' subsidiaries
 - Offering farmers low prices for the potatoes and other crops they produce

2. The title is a reference to the pressure the author feels McCains is placing on the family farm operators of New Brunswick.

Concentration of Ownership and Vertical Integration

After students have read these sections on pages 120 to 125, have them write their own definitions of the terms *concentration of ownership* and *vertical integration*. Then use the Analysis questions on page 123 as the basis for a classroom discussion. Following the discussion, you may wish to explore with the pupils the importance of balancing efficiency and profitability for producers against convenience and decreased freedom of choice for consumers.

Have students examine Fig. 4-1 on page 124 showing the vertically integrated potato. Then have them prepare a similar chart showing what would happen if the French fries were produced in a non-vertically integrated industry. Have students compare the two charts using the following terms: competition, choice, and decision-making.

The Vertically Integrated Hamburger

Have students read pages 125 to 128. Make certain that students are familiar with the five key aspects of vertical integration:

1. Quality control
2. Reduced costs and freedom from cost fluctuations
3. Control over supply
4. Increased competitive advantage through economies of scale
5. Increased profits

Answers to Recall and Analysis (p. 128, upper right)

1. Students' answers should refer to the company's control over and ownership of the various elements shown in Fig. 4-3 on page 126.
2. The company can be sure of the quality of the raw materials or processed ingredients that go into the products that it offers for sale. The company can directly order its subsidiaries to meet certain quality standards without the subsidiary having the freedom to refuse or to attempt to sell to some other purchaser.
3. Lower costs mean increased profits at the same selling price. Wholly-owned subsidiaries in a vertically integrated company do not have to build a profit into the prices they charge, so costs are lower all down the line, thereby increasing profits.
4. Control over all aspects of an operation is an essential aspect of vertical integration. The use of computers allows much greater centralized

control over an operation through management's ability to both monitor all parts of the organization and to make informed decisions more quickly.

ANSWERS TO GENERAL QUESTIONS AND ACTIVITIES (pp. 128-131)

Recall

1. The major changes between pre-industrial and industrial farming in Canada include the following:
 - Mechanization
 - Increased productivity
 - A decrease in the number of farm workers
 - More efficient use of farm land
 - A decreased dependence on weather conditions
 - A loss of self-sufficiency
 - Greater capital demands
 - Greater interdependence
 - Increased specialization
 - Larger farm units
 - Scientific farming methods
 - Concentration of ownership
 - Government intervention
2. Mechanization allows more efficient use of farm land, decreased labour, and a decreased dependence on weather.
3. Scientific research has resulted in:
 - A greater variety of plants, particularly those with shorter growing seasons and higher yields
 - Better pest control
 - Better breeds of farm animal for high-grade meats
 - Reduced costs due to greater efficiency
5. *Canada Safeway*: owns food production plants, purchases imported foods, and owns frozen food plants, soap companies, a transportation company, and stores. Thus, it produces, purchases, ships to market, and sells many of its own products.

McCain Foods: See Fig. 4-1 on p. 124 of pupil text.

Canada Packers: sells animals to farmers, sells animal feed, buys back the fattened animals, slaughters the animals, packs the meat and ships it in its own fleet of trucks, and is part owner of a chain selling the finished product to consumers. Thus, it is involved in the entire production process.

Activity: A Role-Playing Game

You may wish to have the students perform the role-playing at a Food Fair Night, featuring displays of their findings related to the hypotheses formed

at the beginning of the case study. Students could plan menus, purchase ingredients, and prepare food to be sold to friends and parents. (This is a great fund-raising activity for field trips, etc.)

EXAMINING ALTERNATIVES

Air, water, and food are basic to human survival. Air is of course freely available and is protected, to a degree, by government pollution controls. Water is provided at low cost with government assistance to cities and towns. Have the students discuss whether or not they think food should be free to all citizens, rather than produced and marketed for profit. Have the class explore both the similarities and differences between food and the other two basics of human existence.

Lead a discussion about how personal taste in foods affects the types of food produced and sold in Canada.

Examine with the students the various food products sold in large supermarkets to determine which ones are nutritious and which ones are low in food value. Have the students speculate as to why stores sell so many food products that have little or no nutritional value. Point out that products such as cigarettes and alcohol, which are potentially harmful to users, are heavily taxed by governments, with some of the money collected going to health and medical services. Lead the students in a discussion as to whether or not foods with no nutritional benefits or which pose possible health hazards should be similarly taxed.

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CHAPTER 5

ANIK: THE EFFECTS OF NEW TECHNOLOGY

OVERVIEW

This case study deals with the role communication plays in shaping culture, specifically the impact of satellite communications technology on native peoples and other isolated groups in Canada. The focus of this case study is on the value issues raised by the induction of a new communications medium, and by the content carried on that medium. Students should become aware that people prize their own cultures and that any force or event that has an impact on their culture must be evaluated to decide whether the impact is good or bad. A second major issue examined in this case study is the rate of cultural change. Communication and contact with other cultures lead to cultural change. Modern communications technology can greatly speed up the rate of change and cause problems for a society struggling to deal with these changes. Finally, the case study examines the role played by government as it tries to intervene in communications technology to protect Canadian culture and the privacy of individuals in an electronic era.

OBJECTIVES

After completing this case study, students should be able to:

1. Describe the role played by communications in shaping or changing culture.
2. Describe and evaluate the impact of satellite telecommunications on the Inuit of Canada's North.
3. Summarize at least three different points of view regarding the impact of television on modern Inuit culture held by members of Canada's Inuit community.
4. Describe the changes in the range and speed of communication that have resulted from the use of satellites, such as Anik, in the telecommunications systems.
5. Explain the role played by government in both facilitating and regulating telecommunications media in Canada.
6. Describe and evaluate the impact of television on their own culture and social values.
7. Hypothesize about possible future changes in communications technology and their implications for Canadian culture and social organization.

INTRODUCING THE CASE STUDY

To emphasize how much television dominates our leisure time, point out to the students that while a young person in North America attends approximately 10 800 hours of classes during 12 years of schooling, he or she watches an average of 25 000 hours of television. Discuss with students the role television plays in the lives of Canadians today: how television has shaped Canadians' attitudes, values, and abilities to communicate, think critically, and interact with others.

Alternatively, have your class try to imagine a world without television. How would their lives be different? How would people in Canada have different values, attitudes, or patterns of social interaction if there were no television?

WHAT ANIK BROUGHT

Have students read pages 132 to 134 in their texts. Then discuss with them the impact of Anik on the people of the North. Encourage them to use words such as "good" or "bad," "helpful" or "hurtful" -- these terms are evaluative and form the basis for discussing a value issue. Then have the students summarize the points of view of each of the following Inuit figures from the story regarding the value of Anik communications:

1. The sick woman
2. The young people
3. The Inuit elders
4. The young community leaders

You might also ask the class to speculate about the missionary's views regarding Anik's impact.

Have the students discuss how the issue that arises on pages 132 to 134 is a classical value dilemma. When a technological innovation causes cultural changes, some members of society resist change, others wish to harness it for their own ends, and others allow themselves to be passively influenced by their uncritical acceptance of the new element in their lives.

A FRIEND IS BORN

Have students read pages 134 to 137, then do the Analysis questions on page 137 as the basis for a classroom discussion. Extend the discussion to explore the following two questions:

1. How do the seven ingredients of industry examined in Chapter 1 interact in the satellite communications industry?

2. What technological developments or changes had to take place before satellite communications technology could be effectively utilized?

Then have students read "The Launch" on pages 137 to 139. Discuss with the class the different types of skilled and specialized labour that had to be co-ordinated to make the Anik launch successful.

OTTAWA'S TAKE-OVER

After reading this section, have students hypothesize about reasons for locating Telsat Canada's headquarters in Ottawa.

Extension Activity

Have students research the growth of the high technology computer and aerospace industries in the Ottawa area since World War II.

ANIK BEGINS TO WORK

Have the students read pages 141 to 143, then use the activities on page 143 as the basis for classroom discussion. Question 3 provides an opportunity to discuss the following: As a society, which do we value more, telephones or television?

THE IMPACT OF ANIK

In this section, a critic's description of television as "junk food for the mind" is quoted. Before reading the section, have the students discuss this quotation. As a result of the discussion, have students establish criteria on which they can measure what is "good" and "bad" television. Have them propose some socially useful or desirable uses of TV. Then have them read pages 143 and 144 and assess the impact of Anik on Canada's North.

OTHER CANADIAN TELECOMMUNICATIONS SATELLITES

Have students read pages 144 and 145 in their texts and hypothesize about the future use of telecommunications satellites and their possible impact on the Canadian way of life and social organization.

LEGAL PROBLEMS WITH TELECOMMUNICATIONS SATELLITES

After reading pages 145 through 147, have students compare the role of government discussed here with that described in the earlier section "A Friend is Born."

SUMMARY

After reading the summary on page 147, have students role-play a community hearing either in an Inuit village or in a remote Maritime fishing community. Explain that a resolution has been put forward to install a community satellite dish-antenna to bring television to a group of people who have not had TV before. Have separate groups prepare briefs supporting and opposing the proposal, select a chairperson, and role-play the hearing. At the end of the role-playing exercise, have the class identify the values that arose in the course of the hearing.

Extension Activity

Have students research the steps that a community would have to go through to obtain a permit to set up a satellite dish-based cable television system. Have them find out what levels of government have the authority to regulate such activity.

ANSWERS TO GENERAL QUESTIONS AND ACTIVITIES (p. 148)

Recall

1. *Positive:* TV became available; telephone links reduced isolation; assistance in emergencies could be more readily attained; Inuit programs were established to reduce Inuit isolation; contact among Inuit in dispersed locations became possible.

Negative: values were eroded; dissatisfaction was created by giving a false view of the outside world; there was a loss of language, "old ways," and self-sufficiency.
2. (a) In Canada, the control centre was designed and built, techniques for "parking" in orbit were developed, and satellite parts were made.
(b) An American company manufactured *Anik*, an American launch site and rocket were used, and the knowledge of satellite launching and orbiting was developed by Americans.
3. Satellites can be used in Canada for education, medical diagnosis in isolated areas, cross-country discussion, and sharing common experiences (e.g., Canada Cup Games). Other uses may be suggested by the students.

EXAMINING ALTERNATIVES

In a class discussion, have the pupils hypothesize as to ways in which northern communication services and programs might differ if controlled by each of the following groups:

- (a) Private industry
- (b) The federal government
- (c) The government of the Northwest Territories
- (d) Native peoples

Discuss with the students how their lives would be different if they had to live without radio, television, or telephones. Bring out the possible impact on values, social relationships, and methods of communication.

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CHAPTER 6

GRASSY NARROWS: A STUDY OF CHANGE AND CONFLICT

OVERVIEW

One of the most significant by-products of 20th century industrialization in Canada and in other industrial societies has been pollution, the result of toxic or irritating wastes released by factories, mills, mines, and other industrial centres. Pollution has served to make industrial-age citizens just as aware of their close relationship to and dependence on the natural environment as their pre-industrial ancestors were.

This case study examines one of Canada's native groups, the Ojibway, living in close relationship to the natural environment of northern Ontario. Construction of a pulp and paper mill nearby brought the Ojibway of Grassy Narrows, Ontario, into tragically close contact with industrial society as a result of toxic mercury wastes released from the mill into the streams and lakes where they fished.

At the heart of the case study is an essential value issue: Can (or should) industrialization benefit all Canadians? This issue raises a number of related questions concerning the social responsibility of the owners and managers of Canada's industries and about the role of governments as they attempt to encourage and facilitate the growth of Canada's industrial economy while, at the same time, attempting to regulate those activities to ensure benefits for the greatest number of Canadians.

Another issue is also involved. Grassy Narrows was a completely self-supporting reserve, based on traditional hunting and trapping. But it also served a useful function within modern industrial society because of the guiding services provided by band members to local tourist lodges. By destroying the food supply, mercury pollution not only took away the ability of the reserve to feed itself successfully, but it destroyed the economic base on which the community depended, since the poisoning of the fish caused the local hunting lodges to close down. The Ojibway of Grassy Narrows did not benefit in any way from the mill at Dryden, nor did they receive any compensation for the destruction of their livelihood. The class could identify and discuss the values implicit in this situation.

OBJECTIVES

After completing this case study, students should be able to:

1. Compare and contrast the relationship between human beings and their natural environments in:
 - (a) Pre-industrial societies
 - (b) Industrial societies
2. Define, in their own words, *industrial pollution*.

3. Explain how mercury poisoning was identified as the cause of the mysterious illness at Grassy Narrows.
4. Explain how the term *Minamata Disease* has come to be applied to the disease discovered at Grassy Narrows.
5. Discuss the role governments play in attempting to:
 - (a) Promote industrial growth
 - (b) Regulate pollutionand the potential conflicts that may arise from these two roles.
6. Use newspapers as sources of data about the extent and nature of industrial pollution in Canada, focusing on:
 - (a) The response of industry to public concern over pollution
 - (b) The response of government to concerns about the effects of industrial pollution
7. Identify and discuss the conflict of values that underlies the tragedy of Grassy Narrows.
8. Use maps as sources of data in examining environmental issues.

INTRODUCING THE CASE STUDY

The introduction to this case study poses two questions to focus student inquiry:

1. Which Canadians today have ways of life most closely linked to the natural environment?
2. Which industries have moved into areas still occupied by Canada's native peoples, and what has been the effect of these industries on the native peoples?

You may wish to begin the case study by presenting the two questions to the class for discussion.

Have students read pages 149 to 151 in their texts. Discuss with the students the eight questions listed by Lynn on pages 150 and 151, focusing on why she might have selected these questions to guide her research.

Extension Activity

Have students attempt to formulate a different set of questions that Lynn might have developed to help her research the topic she had set for herself.

Discuss with the students how the kinds of questions we ask determine the kind of research we will carry out and may affect the results of the research as well.

THE SUBARCTIC ENVIRONMENT AND THE OJIBWAY WAY OF LIFE

Have students read these two sections on pages 151 to 157, then discuss with them the changing relationship between the Ojibway and their environment over time. Have pupils do the Recall and Analysis questions on page 156.

Answers to Recall and Analysis (p. 156)

1. It used renewable resources that the Ojibway were already using. They had developed a technology to gather these resources in amounts sufficient to meet their needs. The fur trade allowed the Ojibway to use resources they had as a means of exchange to trade with people in other environments. This gave them access to products and foodstuffs besides those they could produce themselves. In a geographic sense, the fur trade broadened the environment within which the Ojibway interacted. It broadened first to include the lands to the south, and later Europe.
2. The fur trade brought:
 - Increased access to a wider range of goods and products
 - A loss of self-sufficiency and increased dependence on goods sold at the trading posts
 - An end to the semi-nomadic life-style of the Ojibway
3. Although it is appropriate to speak of the fur trade as an industry, it is essentially a pre-industrial activity because of the little use made of machinery and other advanced technologies.
4. Mineral wealth was a resource not used in fur-trading times. Industry made greater use of non-renewable resources as well as of renewable resources. Greater use was made of machinery for extraction and transportation. Industry created problems of waste and pollution, bringing a non-native way of life into the environment.

RELOCATION OF THE RESERVE

Like the discovery of the crime in a detective novel, this section identifies the problem faced by the people of Grassy Narrows. After reading the section, have students hypothesize about ways in which the mysterious disease might be identified.

THE REED PAPER MILL AT DRYDEN

Have students read pages 157 through 160. This section ends with the following: "It's [industrial pollution] something we can all live with. Or is it?" Use this quote as the basis for a classroom discussion about the impact of pollution on people. You may wish to focus on the irony that the word "live" has a literal as well as a metaphorical meaning.

MERCURY POISONING AND MINAMATA DISEASE

Have students read pages 160 to 162. Discuss the symptoms of Minamata disease. In particular, examine how the stereotypes of native peoples held by many non-native people may have delayed the identification of mercury poisoning as a problem at Grassy Narrows. Then recall the discussion about pollution being "something we can all live with" from the previous section.

Extension Activity

Have a group of students research the impact of mercury and other heavy metals, such as cadmium, on the food chain.

Alternatively, have a group of students research the mercury poisoning problem in Minamata, Japan, and find out what was done about the problem there. Have the students compare their findings with what they learn about the events at Grassy Narrows in their texts. (Point out that the Japanese gentleman shown in the photograph on page 165 led the fight in Japan to get compensation for the Minamata pollution victims.)

WHAT WAS DONE ABOUT THE PROBLEMS

After students read pages 163 and 164, have them discuss the role played by:

- (a) The management and owners of the Reed Paper Company
- (b) The government of Ontario

following the discovery of mercury poisoning at Grassy Narrows. Have students suggest reasons why it took so long for changes to be made in order to solve the problem of mercury contamination of the river. As a class, do the questions on page 164.

A CONFLICT OF VALUES

Have students read the quotations on pages 165 and 166 and discuss the differing values they reveal with respect to the environment.

Answers to Recall and Analysis (p. 166)

1. A pulp mill was constructed at Dryden.
2. (a) It would warn users of the water, fishermen, and others of the toxic conditions.
(b) Local or provincial health authorities might have put up the sign.

Extension Activities

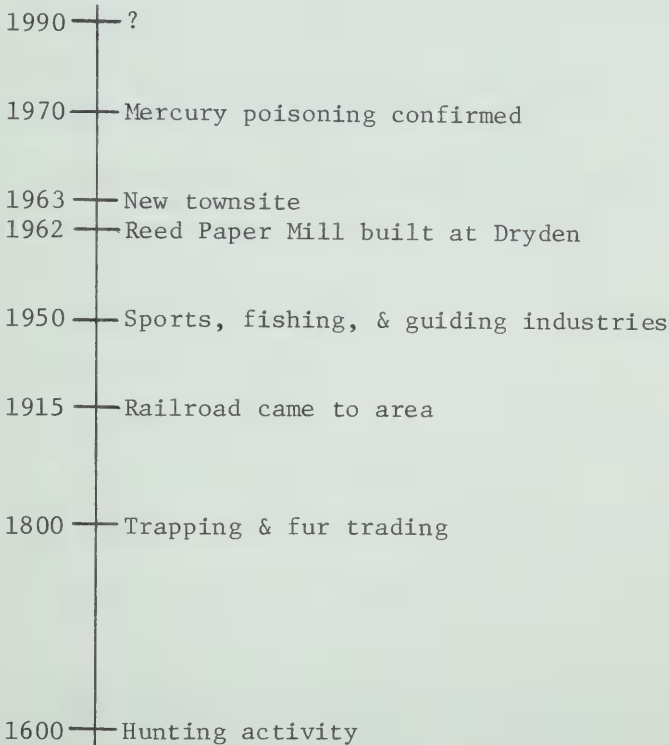
Have students use the daily newspaper to examine an environmental pollution problem currently facing your area of Canada. Have them identify differing points of view or values expressed about the nature of the problem and possible solutions.

Have students use the eight questions developed by Lynn on pages 150 and 151 to develop a research project on a major environmental pollution problem that has occurred in their area in the recent past. Have them compare their research findings to what they learned about Grassy Narrows.

ANSWERS TO GENERAL QUESTIONS AND ACTIVITIES (p. 167)

Recall

1.



2. The Reed Paper Mill in Dryden was the source of the mercury poisoning.
3. The two groups had different basic food sources: fish for the native peoples; store bought food for the European Canadians.
4. There was a conflict between the preservation of the environment to benefit local users and the exploitation of the environment to benefit outsiders.

EXAMINING ALTERNATIVES

Discuss with your class the concept of aboriginal peoples' rights, especially the desire of Canada's native peoples to regain control over the lands that

they traditionally inhabited or inhabit today (land claims). Then examine the possible changes to the pulp and paper industry in the Grassy Narrows area if the companies had to get permission from the native people, not the government of Ontario, to operate in the region.

Have the students discuss ways in which Canadians can use the experience gained from Grassy Narrows to develop policies to prevent the recurrence of such tragedies.

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CHAPTER 7

KITIMAT: CHANGES AND CHOICES

OVERVIEW

Chapter 7 follows Lynn and Peter as they try to answer the following questions related to the effects of a new major industry on a specific region:

1. What issues and values are involved when an industry causes change in an area?
2. What is required for the manufacture of aluminum?
3. How was an aluminum smelter constructed near Kitimat?
4. What were the reactions of local residents to its construction?
5. How did Kitimat develop after the construction of the first smelter?
6. What were the costs and benefits of the new smelter?
7. What were the choices faced by the local residents?

OBJECTIVES

After completing this case study, students should be able to:

1. Describe the manufacture of aluminum.
2. Describe the development of Kitimat.
3. List issues and values involved when an industry causes change in an area.
4. Summarize the points of view that were prevalent throughout Kitimat's development.
5. Use a cost and benefit analysis to summarize the issues involved in the Kitimat study.
6. Defend and/or criticize the various points of view involved in the Kitimat development.

ISSUES AND VALUES

To introduce the chapter, students can be asked about a change in their lives that may have benefited other people but with which they themselves might not have agreed. What was the change? (a new house? new neighbours?) Who made the decision? Who benefited? Who suffered some loss or unpleasant change? How was it decided whether the benefits outweighed the costs? Were they happy with the change in the end? Were they able to make their feelings heard and accepted? How did they feel about the influence they had?

ALUMINUM

After reading page 169 in their texts, students might make a list of ten products in their homes, classes, and school that contain aluminum. Ask the students what these products were made of before there was aluminum. Discuss the advantages there are in using aluminum in each of the products.

CONSTRUCTION OF AN ALUMINUM SMELTER

The following activities might serve to introduce the students to Kitimat:

1. Look up Kitimat on a map of British Columbia in your atlas.
2. Trace the route taken by the bauxite that is used in Kitimat. It comes from the Caribbean area.
3. Check the latitude of Kitimat. Check the latitude of your home town. Which is further north?
4. Would you like to live in Kitimat? Why or why not?
5. What three things attracted Alcan to Kitimat?

Students will discover that the main attraction of Kitimat was access to abundant power. A massive and assured supply of hydro-electricity is essential for an aluminum smelter. Massive amounts are needed to drive the cells which make the aluminum. It must be an assured supply because once you start a smelter up, you can't shut it down. If the smelter loses power, the aluminum hardens in the cells and is very difficult to remove once it has hardened.

Students may review the importance of raw materials and power in the making of aluminum by answering the following questions:

1. If you were in charge of security for an aluminum smelter and had to protect it against possible enemy agents, where would you place your security force to ensure the continued operation of the smelter?
2. What would be the effects on the aluminum smelter at Kitimat if:
 - (a) the Panama canal were to close?
 - (b) there were to be a couple of years of drought in northern British Columbia?

REACTIONS

Have students read about the reactions of local residents on pages 173 and 174. Students might appreciate the nature of the reactions to the first smelter in Kitimat if they are asked questions such as the following:

1. What other objections might have been raised by local residents?
2. (a) Why might the ranchers have been willing to trade some of their land for money?
(b) Might there have been ranchers who would not have been so willing?
(c) Would you expect the ranchers to continue to be willing to give up their land in the future if development were to continue?
3. Given the time it took to build the smelter, is there an explanation for the foresters not harvesting trees before they were flooded?
4. Was there a basis for a strong protest from the fishing industry?
5. What reasons are there to suspect that the Indians of today would be able to raise stronger objections to the smelter than they did in the 1950s?

KITIMAT'S DEVELOPMENT

Have students read pages 174 to 177 in their texts. The importance of the town of Kitimat in the success of the Alcan venture can be highlighted through answers to the following questions. The questions are designed to point out the use of an attractive and well serviced townsite in attracting and retaining workers.

1. Why would Alcan spend as much money as it did providing an attractive, well serviced townsite for its workers?
2. What are the costs to industry of having workers constantly coming and going and not staying at their jobs for long periods of time?
3. Why might the retention of workers for long periods of time be a problem for industries operating in isolated locations?
4. What would you have liked to see added to the town of Kitimat to ensure that you and/or your family would be willing to relocate in Kitimat and plan to settle down there for an extended period of time?
5. If you were an official of Alcan, what type of people with what type of interests would you be looking for to bring to Kitimat to work in the smelter?
6. If you were an official of Alcan, what steps would you take to help ensure that the people you hired would be happy in Kitimat and would stay on the job for extended periods of time?

Answers to Questions in Picture Captions

Photo (p. 174)

There are harbour facilities, as well as a body of water, which facilitate the transporting of ore to the site and of ingots away from the site.

Fig. 7-3 (p. 175)

- (a) A central location for the shopping mall provides ease of access for everyone.
- (b) Separated living areas ensure quiet residential streets away from the heaviest traffic flow in the centre.
- (c) Being across the river from the smelter separates the living quarters from factory noise, dust, etc.

Photo (p. 176)

Houses were built off the main street to provide quieter residential areas. U-shaped residential streets prevent fast-moving through traffic, thus making streets quieter and safer. The school is located on a main traffic artery for ease of access.

EFFECTS OF THE NEW SMELTER

Students can gain appreciation for the costs vs. benefits issue if they are given one of the roles of reactors from page 173 (people, ranchers, fishermen, etc.) and asked to rank the costs and the benefits in the order of importance to them in their role. When the lists are complete, have the class:

1. Compare the lists of all the ranchers. Are they the same?
2. Compare the lists of students in each of the different roles and explain the differences found in their rankings of the costs and benefits.

THE CHOICES

Sample Views of the Opposition

After the class has read pages 177 to 181, divide them into ten groups. Assign a sample view to each group, and have it expand the assigned view in writing or as an oral presentation. The same can be done with ten individuals.

Have students decide which voices of opposition might best combine into a coalition to make their opposition more effective.

Ask the students to put themselves in the place of an Alcan official and ask them: Which opposition voices do you think might be likely to change their minds? Which opposition voices would be least likely to see things your way? Why?

ANSWERS TO GENERAL QUESTIONS AND ACTIVITIES (p. 181)

Recall

1. Three important elements found in the Kitimat region are hydro-electricity, a deep water port, and flat land for the smelter and townsite.
2. \$470 million
3. (a) 2000 jobs
(b) 15 000 people
4. (a) 2000 jobs
(b) 5000 jobs
5. 25 000 to 35 000 people
6. \$6 billion per year

EXAMINING ALTERNATIVES

Examine with your class possible alternatives to the company town as a means of accommodating the workers needed at a project such as the Kitimat aluminum smelter. Have the students summarize the advantages and disadvantages of company towns to:

- (a) The workers
- (b) The company
- (c) The provincial governments

Have the students explore the advantages and disadvantages of building aluminum smelters:

- (a) At the source of hydro-electric power
- (b) In large urban centres, bringing the electricity in by transmission lines across the province

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Contact the local office of the Aluminum Company of Canada for information and materials.

CHAPTER 8

THE ALBERTA OIL SANDS: CREATING A RESOURCE

OVERVIEW

In this chapter, Peter and Lynn discover the history of how the Alberta Oil Sands became a part of Canada's resource wealth.

The chapter provides insight into the nature of resources, the Canadian energy picture, and the future of Canadian fossil fuels by examining:

1. The prerequisites for becoming a resource
2. An explanation and examples of the statement: "Resources are not; they become."
3. Canada's fossil fuel resources
4. The interplay and effects of one resource on another
5. The possible future role of the Alberta Oil Sands in providing energy for Canadians

OBJECTIVES

After completing this case study, students should be able to:

1. List the requirements for a resource.
2. Explain the statement: "Resources are not; they become."
3. Recount the critical points in the history of the development of the Athabasca Oil Sands as a resource.
4. Describe the mining process of extracting oil from the oil sands.
5. Describe the "in situ" processes under consideration as a means to extract additional oil from the oil sands.
6. Summarize the interplay between the oil sands resource and the conventional oil resource in the development of the oil sands.
7. Speculate about the future of fossil fuels in the Canadian energy situation.

RESOURCES ARE NOT: THEY BECOME

Two major foci for the chapter are the nature of resources and an explanation of the statement: "Resources are not; they become." Students may be introduced to these two foci through the following exercises.

1. Do you have a resource if you have:
 - (a) a bucket of sand on a sandy beach?
 - (b) a bucket of sand on a winter day, and a driver is stuck on some ice?
 - (c) oil on your neighbour's land, but the neighbour won't sell and is not interested in developing it?
 - (d) oil on your land?
2. What do you need for the following to become resources? (Use your imagination.) Why are they not resources now?
 - (a) There is water in your well, but everyone else has a well, too.
 - (b) You have a new form of energy that costs twice as much as forms of energy now in use.
 - (c) You have a map showing buried treasure on an island in the south Pacific.

REPLACING HUMAN MUSCLES

After the students have read pages 184 and 185, you could ask the following:

- Q. (a) What were some of the early methods used by humans to replace their muscle power?
- (b) What are some ways humans may replace muscle power in the future?
- A. (a) animals, water power, steam power
- (b) nuclear power, solar energy including wind power, tidal power

LEARNING TO USE A RESOURCE

After students have read pages 185 and 186 in their texts, have them "create" a resource. Ask them to select anything that doesn't presently qualify as a resource because it is missing one essential element (something people want to use, something people are able to use, or something people are willing to pay for). They are to use imagination and/or projection into the future to tell how this thing might become a resource. (For example, students may decide to lay claim to giant icebergs in anticipation of them becoming important sources of water.)

CANADA'S ENERGY RESOURCES

Have students read pages 186 to 187 and then answer the following questions regarding Table 8-1:

- Q. What happened to account for the almost quadrupling of oil production between 1951 and 1961?
- A. The Alberta oil discoveries came on stream.
- Q. In what year did Canada first produce more oil than it consumed?
- A. 1971
- Q. In what year did that situation reverse?
- A. 1975
- Q. What must Canada do in years when it consumes more oil than it produces?
- A. It must import additional oil from other countries.

THE ALBERTA OIL SANDS

To help students to better appreciate the immediate and future potential of the Oil Sands and to understand the comparative production figures, have them fill in the following chart using data from pages 187 to 188. Have them convert all figures to cubic kilometres.

Amount of oil used by Canada in 1977	_____ km ³
Amount of oil in 10% of Oil Sands	_____ km ³
Amount of oil in 100% of Oil Sands	_____ km ³
Amount of oil existing in the world in 1974	_____ km ³

THE ATHABASCA OIL SANDS: AN ENERGY SOURCE?

Instruct the students to read pages 188 to 190. They can get a clearer picture of the sequence and timing involved in developing the Athabasca Oil Sands if the steps taken, the dates they were taken, and the problems involved are displayed on a time-line that contains the following information:

DATE	EVENT	PROBLEM
1788	- Crees use oil to patch canoes	- Not a resource; everyone can get it
1880s	- Search begun for oil pools	- None found
1915-20	- Attempt made to use oil for pavement	- Little success
1930	- Dr. Clark begins research for method to free oil	
1940-50s	- Useful extraction technique discovered	- Oil extracted is too expensive compared to conventional oil
1950-60s	- Conventional oil prices rise	
1964	- Great Canadian Oil Sands Company formed	
.	.	.
.	.	.
.	.	.

THE OIL SANDS BECOME A RESOURCE

SYNCRUDE

Have the students read pages 190 to 194 in their texts. Having completed all the entries in the above time-line, the students can now continue the time-line with the events, dates, and problems involved in the G.C.O.S. Company and Syncrude projects.

GETTING THE OIL OUT AND THE MINING PROCESS

After the students have read page 194, make a list with them of the disadvantages of the mining process. Be sure to bring out that it is expensive; each of the six steps involve expensive machinery. Also point out that this process is limited because it can get at only 10% of the bitumen in the oil sands. (Due

mainly to the difficulty and expense of removing the overburden, the mining process will probably access only 10% of the available bitumen.)

THE "IN SITU" PROCESS

Explain to the students that the words "in situ" come from the Latin phrase for "in position." Explain also that the various "in situ" processes are designed to separate the bitumen from the sand and water while it is still in the ground, or in position, so that it might be pumped to the surface like conventional oil. Emphasize that this method would have the advantage of being less expensive than the mining process and would make available a greater percentage of the bitumen.

THE PRESENT AND THE POTENTIAL

After students have read page 197, have them forecast the future by writing down five results they predict if a way is found to free all the oil from the oil sands in Canada (see chart, page 202). It may be helpful to remind them of the figures on pages 187 to 188 of their texts.

ANSWERS TO GENERAL QUESTIONS AND ACTIVITIES (p. 202)

Recall

1. There are four major deposits (see Fig. 8-1).
2. People must want to use it, be able to use it, and be willing to pay for it.
3. 11% by mass
4. 50 to 60%
5. The price of conventional crude oil rose, and the price of synthetic crude oil came down.
6. Syncrude's greatest problem was finding a new partner to replace Atlantic Richfield.

Analysis

1. (a) i. 1.2%; ii. 12.6%; iii. 46.2%; iv. 146.6%

EXAMINING ALTERNATIVES

The Oil Sands project is a "mega-project" developed in part by government and then turned over to private industry for further work. Many people, especially in recent years, have argued that the vast sums spent by the government might have been better directed to other uses, such as social development in depressed regions of the economy. Those who do not agree have countered that we cannot create more work unless we continue to research new technologies, and the Oil Sands technology was just too expensive to be developed by private industry. The arguments go on and on and provide abundant material for debate by the students.

Have your class hypothesize about the alternative uses to which the Oil Sands development money might have been directed. The students might consider:

- (a) Social welfare
- (b) Support for small industry at a local level
- (c) The development of manufacturing facilities to process present oil resources (e.g., a plastics industry), rather than trying to find new resources

Discuss with your class how Canada might have been different had the money been directed in these alternative ways.

Have the students also explore the other side of the coin: What would we have lost had the Oil Sands not been developed. Some losses to consider:

- (a) The advantage of developing new technology in Canada, rather than have it and the inventors go elsewhere
- (b) The advantage of having a resource that we can develop further should we face a renewed deficit of oil
- (c) The advantage of having an exportable technology once the need of Oil Sands technology becomes apparent outside Canada

Students might then weigh the advantages and disadvantages and explore the question: Should the Oil Sands have been developed?

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Gould, Ed: *Oil: The History of Canada's Oil and Gas Industry*, Hancock House, Victoria, 1976.

"Oil Sands and Heavy Oils, the Prospects," *Oil and Natural Gas Resources of Canada*, 1976, Energy, Mines, and Resources Canada, Ottawa, 1977.

Pratt, Larry: *The Tar Sands: Syncrude and the Politics of Oil*, Hurtig, Edmonton, 1976.

Note: Syncrude Canada has very useful materials available to schools.

CHAPTER 9

TWO FAMILIES

OVERVIEW

This case study differs from the previous six. Rather than focusing on a particular industry in Canada, it illustrates the connections among individual Canadians as participants in a modern industrial society.

In this case study, the reader is introduced to two families: the Smiths in Alberta and the LeBlancs in Ontario. The activities of the members of these two families are examined as the individuals go about their roles as producers and consumers of the kinds of goods and services that affect Canadians in all parts of the country. We see the members of these two families at work, at play, at school, and at home. In doing so, we see how the lives of these two families are affected by a wide range of social and economic factors that originate both within Canada and far beyond this country's boundaries.

After outlining these influences, the case study diagrams the possible connections between the Smith and LeBlanc families. The connections between the two families represent the interconnections that exist among individual Canadians and among the various regions of Canada as a consequence of industrial development, specialization, and interdependence.

OBJECTIVES

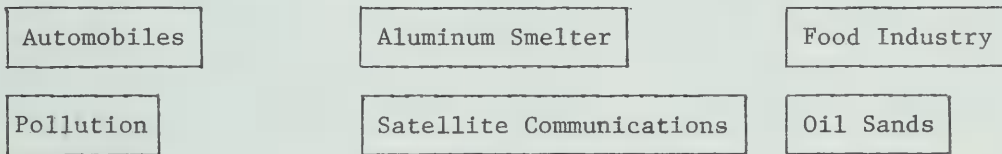
After reading this case study, students should be able to:

1. Explain why every Canadian is both a producer and a consumer of goods and services.
2. Describe and discuss the interdependence of both individuals and regions within Canada's economic and social organization.
3. Describe how both goods and money flow among individuals and groups in Canada's social and economic system.
4. Explain how decisions made by Canadians in one family, region, or company may affect other Canadians in other places.
5. Redefine, in their own words, the term *industry*.
6. Redefine, in their own words, the term *industrial society* and explain how Canada fits this definition.

7. State how they fit as members into Canada's social and economic systems.
8. Hypothesize how regional industrial activities may affect Canada's political system.

INTRODUCING THE CASE STUDY

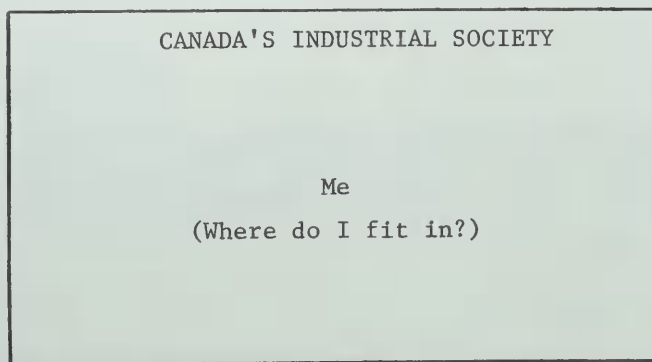
Your students have looked at six case studies dealing with various industries in Canada, and the ways these industries affect the lives of various groups in different parts of the country. Now it's time to explore the ways in which individuals and groups, places and regions are linked together to form our complex industrial society. You may wish to begin by drawing six boxes, such as those below, on the board and asking students to draw in all of the connections among them.



Extension Activity

Have students do the same activity as in the previous section, but replace the words in the boxes with occupations mentioned in each of the case studies (e.g., smelter worker, driver, Inuit leader, small-farm owner, pulp mill manager, federal Minister of Energy).

As an alternative, give students a sheet of paper labelled as follows:



Have students write in as many ways as they can how they fit into Canada's social and economic systems as producers and consumers. Then share ideas in a classroom discussion.

THE SMITHS

Have students read pages 204 through 207 in their texts. Use the Analysis question on page 207 to introduce a discussion of the ways in which the Smiths are connected to other parts of Canada and the world. Discuss also the following statement: The Smiths are less self-sufficient today than Jane's great grandmother was. The students should recognize that the need for parts, energy, and supplies necessary to the operation of their modern, mechanized farm make the Smiths much more dependent on others than pre-industrial farmers were.

THE LEBLANCS

Have students read the story of the LeBlancs on pages 207 through 212. Use the Analysis questions on page 212 as the basis for a classroom discussion about the roles played by the various members of the LeBlanc family.

Have students look at their versions of the diagram Jennifer produced to show that she, too, worked in an industry. Discuss whether your students agree that her activities meet their own definitions of the word "industry."

Many students may relate to the problems that Paul LeBlanc worries about. This is a good opportunity to discuss the impact of materialism on the members of an industrial society. Students may wish to examine some of the choices that are open to Paul as he faces his problems. Have students examine how the values we hold play a role in our decisions about education, jobs, and buying a car. You can also anticipate the final section of this chapter by asking how the choice Paul made in buying his van may affect the Smith family in Alberta.

EXTENSION ACTIVITY

Have students discuss how a strike in Ms LeBlanc's factory could affect the Smiths. Discuss as well how a rise in the cost of the oil that Jim is involved in producing could affect both the Smith and the LeBlanc families.

HOW THE FAMILIES WERE CONNECTED

Make overhead projector transparencies based on Fig. 9-2 and Fig. 9-3. After students have read pages 212 through 214, project each diagram and have students discuss the connections between the two families shown. Use the three Recall questions on page 214 to initiate the discussion.

Recall

1. The Smiths were involved in farming and pumping station work. The LeBlancs were involved in electrical appliance assembly, automobile assembly, and the fast food industry. All family members worked in "blue collar" jobs in mechanized industries. Both the activities and the products were different. The Smiths were more closely involved with processing raw materials and the LeBlancs with assembling finished products.
2. See Fig. 9-3 on page 214.
3. The price of oil influences transportation costs and hence food costs. Arrows in the diagrams show the transportation of food.

You may wish to have the pupils do the activities in this section as the final evaluation for the unit or course of study on industrialization. It is suggested that such a final evaluation might include selected Recall and Analysis questions from each of the chapters of the student text that have been covered, along with requiring students to do one question only from each of the Analysis, Activities, and Overview sections on page 215.

EXAMINING ALTERNATIVES

You might have the students examine the features of the society described in Chapter 9. Encourage them to look at both the positives and the negatives (e.g., the improvement in farm working conditions and the boredom of assembly-line work). After the students have summarized these points, instruct them to find one word, or a sentence, that describes the society they have "discovered."

Have the students write down those features that they would like to see in a better society (e.g., a more caring society, a society with a cleaner environment, a society in which work is challenging and stimulating rather than boring and dehumanizing). Following this, the students could discuss the following: What should be done in future to shape technology and our attitudes in order to bring this better society into being?

ANSWERS TO MAP AND GRAPH EXERCISES

(Teacher's Manual pp. 7-14)

MAJOR MINERAL-PRODUCING AREAS

- ▲ copper
- ▽ nickel
- ◇ zinc
- △ iron ore
- ▼ gold
- silver
- ◆ lead
- + uranium
- × asbestos
- ÷ potash
- salt
- gypsum

INDUSTRIAL CENTRES I.

Blacks Harbour: 21, fishing

Botwood: 4, hydro-electric power (H.E.P.), pulp and paper

Buchans: 6, copper, gold, lead, pyrites, silver, zinc

Cape Breton: 10, bleached sulfite

Charlottetown: 14, food processing

Corner Brook: 2, copper, gold, lead, silver, zinc

Dalhousie: 20, pulp and paper

Fredericton: 18, pulp and paper, lumber, textiles

Gander: 5, international airport

Goose Bay: 1, international airport

Glace Bay: 8, coal

Grand Falls: 3, pulp and paper, H.E.P., lumber

Halifax: 12, automobiles, shipbuilding, food processing

Moncton: 16, lumber, railroad yards

P.E.I.: 15, potatoes, fruit, fish

Pugwash: 17, salt

Saint John: 19, petroleum and sugar refining, pulp and paper, fishing

St. John's: 7, H.E.P., fishing, iron

Sydney: 9, coal, iron and steel

Trenton: 11, iron and steel, thermal electricity

Windsor: 13, salt, gypsum

INDUSTRIAL CENTRES II.

Allard Lake: 5, titanium, iron

Arvida: 7, aluminum refining, hydro-electric power (H.E.P.), pulp and paper

Asbestos: 24, asbestos

Baie Comeau: 29, aluminum refining and products, H.E.P., pulp and paper

Beauharnois: 26, H.E.P.

Chaudière Falls: 21, H.E.P.

Chibougamau: 9, copper, gold

Fort Coulonge: 13, zinc, lead, gold, silver

Hull: 14, H.E.P., lumber, pulp and paper

Lac St. Jean: 28, pulp and paper, H.E.P., butter and cheese, aluminum refining

Malartic: 11, silver, cobalt

Manicouagan: 3, H.E.P.

Montréal: 15, port, almost all light and heavy industries

Murdochville: 6, copper

Noranda: 10, gold, copper

Québec City: 19, port, tourism, cement, pulp and paper

Rivière du Loup: 20, lumber

Saguenay River: 30, H.E.P.

Schefferville: 2, iron

Sept Iles: 4, ore, port

Shawinigan Falls: 18, H.E.P., aluminum refining, pulp and paper, lumber

Sherbrooke: 25, H.E.P.

Shipshaw: 8, H.E.P.

Sorel: 16, titanium

St. Lawrence Lowlands: 23, tobacco, truck farming

Thetford Mines: 22, asbestos

Trois Rivières: 17, pulp and paper

Ungava Peninsula: 1, iron

Val d'Or: 12, gold, copper

Valleyfield: 27, lead, zinc

INDUSTRIAL CENTRES III.

Bancroft: 13, uranium, nuclear research

Belleville: 29, cement

Chalk River: 12, nuclear power plant

Cobalt: 8, cobalt

Coldwater: 16, hydro-electric power (H.E.P.)

Cornwall: 15, fine paper, H.E.P., rayon, caustic potash

Falconbridge: 10, nickel

Goderich: 17, salt

Hamilton: 22, iron and steel

Kapuskasing: 4, H.E.P., pulp and paper, sawmills

Kingston: 14, nylon, aluminum, manufacturing

Kirkland Lake: 7, gold

Kitchener: 20, rubber, meat packing

London: 21, insurance, locomotives

Manitouwadge: 3, copper

Marmora: 30, iron

Matheson: 5, asbestos

Niagara Peninsula: 25, fruit, vegetables, tobacco

Oakville: 24, automobiles, oil refining

Oshawa: 27, automobiles

Port Colborne: 23, cement, nickel refining

Red Lake: 1, gold

Rolphton: 11, nuclear power

Sarnia: 18, oil refining, salt, petrochemicals

St. Catharines: 28, car parts

Sudbury: 9, nickel

Thunder Bay: 2, grain port, pulp and paper

Timmins: 6, gold

Toronto: 26, almost all light and heavy industries

Windsor: 19, automobiles, salt, thermal electricity

INDUSTRIAL CENTRES IV.

Calgary: 5, oil refining, cattle centre

Chisel Lake: 13, zinc, lead, copper, silver, gold

Churchill: 18, wheat port

Crystal City: 16, copper, lead, silver

Drumheller: 4, oil field

Edmonton: 2, oil refining, grain centre, thermal electricity

Flin Flon: 14, copper, zinc, lead, silver, gold

Kamsack: 15, oil refining

Leduc: 3, oil

Lethbridge: 8, oil

Lynn Lake: 17, nickel, copper

Medicine Hat: 10, natural gas, brick plant

Pinawa: 20, atomic research

Pincher Creek: 7, natural gas and sulfur

Raymond: 9, sugar-beet processing

Redwater: 1, oil

Regina: 12, steel processing, grain centre, oil refining

Saskatoon: 11, grain centre, distribution centre, railroad yards

Turner Valley: 6, oil

Winnipeg: 19, grain control centre railway yards, clothing, oil refining, meat packing

INDUSTRIAL CENTRES V.

Bralorne: 16, gold

Campbell River: 12, hydro-electric power (H.E.P.)

Cassiar: 2, asbestos

Dawson Creek: 9, oil refining

Endako: 7, molybdenum

Esquimalt: 22, Royal Canadian Navy, Pacific, shipbuilding

Fernie: 26, coal, coke

Fort St. John: 8, oil, wheat, oats, natural gas

Hope: 25, nickel

Kamloops: 17, route centre

Kelowna: 20, wine

Kelmano: 5, H.E.P.

Kimberley: 27, lead, silver, zinc, gold, tin, cadmium, antimony

Kitimat: 4, H.E.P., aluminum refining

Lower Fraser Valley: 18, truck farming

Merritt: 21, copper

Ocean Falls: 6, pulp and paper

Okanagan Valley: 19, fruit (and vegetables)

Port Alberni: 13, pulp and paper, lumber, herring

Port Alice: 11, pulp, iron

Port Edward: 30, pulp and paper

Port Moody: 24, oil refining

Powell River: 14, pulp and paper, salmon, iron

Prince George: 10, lumber, route centre

Prince Rupert: 3, fishing centre, lumber, world's largest fish packing plant

Queen Charlotte Islands: 1, salmon, herring, crab, halibut, lumber

Steveston: 23, fish processing

Telkwa: 29, coal

Texada Island: 28, iron

Trail: 15, world's largest smelter, H.E.P.

MAIN ROADS AND RAILROADS

1. British Columbia Railway (B.C.R.)
2. Northern Alberta Railway (N.A.R.)
3. Canadian National Railways (CN)
4. Canadian Pacific Railway (CP)
5. CN (formerly Grand Trunk Railway)
6. Québec - North Shore Labrador Railway (Q.N.S.L.R.)
7. Alaska Highway
8. Mackenzie Highway

NOTES

Geological Survey of Canada
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